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ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1945



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PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

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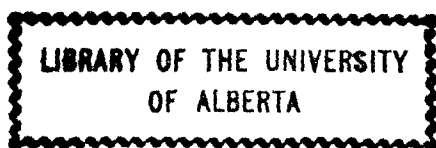
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TO HIS HONOUR,
J. C. BOWEN,
Lieutenant Governor of the Province of Alberta.

SIR:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1945.

I have the honour to be, Sir,

Your obedient servant,

D. B. MACMILLAN,
Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

1945

HON. D. B. MACMILLAN, *Minister of Agriculture*

Heads of Branches

- O. S. Longman, Deputy Minister.
- A. M. Wilson, Field Crops Commissioner.
- A. A. Campbell, Live Stock Commissioner.
- D. H. McCallum, Dairy Commissioner.
- C. W. Traves, Poultry Commissioner.
- R. M. Putnam, Director of Extension.
- P. R. Talbot, Provincial Veterinarian.
- T. L. Jones, Animal Pathologist.
- W. G. leMaistre, Provincial Apiarist.
- S. H. Gandier, Superintendent, Schools of Agriculture and Home Economics.
- J. Murray, Principal, School of Agriculture, Olds.
- N. N. Bentley, Principal, School of Agriculture, Vermilion.
- F. N. Miller, Supervisor, Junior Activities and Youth Training.
- E. B. Swindlehurst, Acting Supervisor, Relief and Land Settlement.
- P. D. Hargrave, Superintendent, Brooks Horticultural Station.

REPORT OF THE DEPUTY MINISTER

(O. S. LONGMAN)

THE HONOURABLE D. B. MACMILLAN,
Minister of Agriculture.

SIR:

I have the honour to submit the thirty-ninth Annual Report of the Alberta Department of Agriculture for the year 1945.

The past six reports of this Department have been prepared against a background of war, and it is most gratifying to once more submit a report under conditions of peace.

The termination of hostilities eased the tension under which the whole agricultural industry has laboured with such magnificent results since war began. Although the war's end produced no appreciable decline in the demand for agricultural products, the removal of certain wartime restrictions brought relief to farmers and Department officials alike. Certain wartime activities carried on by the Department were reduced or entirely discontinued when peace was declared.

The year 1945 is memorable in more than one respect. Adverse weather conditions over most of the Province reduced crop yields to the lowest figure since 1937. These conditions and other factors were responsible for a slump of 34% in swine production, while cattle marketings reached proportions never heretofore attained in the Province. For the first year since war began, the emergency powers of the Feeds Administrator for the Dominion of Canada were exercised to retain within the Province coarse grains necessary to finish the live stock on farms. The creation of a world's record in the production of butterfat by Alcartra Gerben, a Holstein cow owned by Hays Limited, Calgary, brought renown not only to the owners, but to the whole Province as well.

An emergency, war-engendered period of higher than normal live stock production appeared to be drawing to an end in 1945. Although marketings of cattle reached a new high, swine, dairy and poultry production declined, and there was a noticeable unrest which seemed to be awaiting the signal for a return to grain production. The action of the Dominion Government in setting the price of wheat for the 1945-46 crop years at \$1.25 per bushel basis No. 1 Fort William, and of establishing \$1.00 as the floor price for a five-year period, lent support to the trend to grain production. At the same time, the equalization payments of 20c and 10c per bushel on barley and oats respectively tended to discourage live stock production. The world's situation and the acute demand for food of any kind for the people of Europe further emphasized the desirability of producing grain as the most immediate remedy for the world shortage of food. Since Alberta is largely a Province of mixed farming, and because it is realized that a permanent agriculture cannot be sustained on grain production only, the trend toward this end created concern in many quarters.

A few changes occurred in the Department activities with the ending of the war. In a general way, more attention was directed to long time agricultural problems, rather than to immediate war production matters. The work involved in the Dominion-Provincial Farm Labour Agreement fell off, and District Agriculturists were able to devote more time to other activities. The School of Agriculture at Vermilion was released and re-opened on October 30th with 120 first-year students in attendance. A Board of Agricultural Education was set up to deal with the whole problem of agricultural education. The enactment of an Agricultural Service Board Act provided a contact with municipal authorities not heretofore enjoyed by the Department, for the solution of local agricultural problems. To assist in providing more adequate veterinary services a number of scholarships were offered to Alberta students who attended the Ontario Veterinary College at Guelph.

I wish to report some of the major staff changes. S. H. Gandier was appointed Superintendent of the Schools of Agriculture when the Vermilion School was handed back to the Department. F. N. Miller succeeded Mr. Gandier as Supervisor of Junior Clubs and Youth Training. N. N. Bentley was appointed Principal of the Vermilion School of Agriculture. The appointment of Miss B. J. Lewis as Extension Nutritionist with the Extension Service fills a long felt need. J. E. Birdsall was appointed Supervisor of Crop Improvement following Mr. Bentley's move to Vermilion. Of the staff members who joined the Armed Services, fifteen had returned to the Department by the end of the year. Several were still in the Services, while others took employment elsewhere. I wish to record my appreciation for the co-operation of all members of the staff of the Department.

Post-war developments at the international, national and provincial level forecast new and varied problems for this Department. The present world demand for foodstuffs assures substantial markets for the immediate future, while international organizations, such as F.A.O., give promise of a new era in which producers may enjoy greater security because of more definite market trends and requirements.

Yours respectfully,

O. S. LONGMAN,

Deputy Minister.

REPORT OF THE FIELD CROPS COMMISSIONER

(A. M. WILSON)

Decreased yields of major crops were harvested in Alberta in 1945. Not since 1937 were grain yields so sharply reduced because of dry weather during the growing season. Hail and frost, however, also took more than the average toll. Practically the entire Province, with the exception of the foothills area extending from the southern boundary to Lacombe, underwent drought conditions at some stage of crop growth. The south-eastern section of Alberta continued very dry, and many farmers and ranchers were forced to dispose of stock because of the extreme shortage of pasture and hay crops. In the area from Wetaskiwin north, omitting the Peace River block, a particularly dry spring prevailed, with the result that germination and growth of crops was extremely variable. The Peace River Block, although receiving less than average precipitation, harvested reasonably satisfactory yields of good quality grain. That part of the Province lying west of the C.P.R. line from Wetaskiwin south, namely, those areas where crop yields were above average, received from two to ten degrees of frost during the latter part of August. Only a small percentage of the crops were harvested when the frost occurred, and consequently many were severely damaged. Because of prevailing dry weather east from Edmonton and on account of frost in that area, there will be a shortage of seed oats and barley in these particular districts. It has been estimated that 100 carloads of seed oats will be required for drought and frosted districts.

While surveys of crop yields by townships have not been completed, it is apparent that crop failure districts, consisting of those areas which harvested less than an average of four bushels to the acre, will be greater and more widely scattered than in 1944. A survey would indicate that more than 10,000 farmers will receive benefits under The Prairie Farm Assistance Act.

Grain which had accumulated since 1942 moved rapidly and in enormous quantities from elevator storage and farmers granaries early in the year. By mid-June elevator and farm supplies were dangerously low. In view of the crop outlook stock men were frantic for feed and liquidated much of their live stock when unable to have assurance of obtaining adequate grain. The Feeds Administrator applied regulations to prevent further movement of grains eastward during the latter part of September. This order remained in effect until the end of November. This action was taken to protect the live stock industry of the Province. In addition, the Feeds Administration has stored in Government terminal elevators at Edmonton and Calgary reserve supplies of oats and barley to meet emergency feed requirements that may arise from Alberta or British Columbia points.

The production of forage crop seed has exceeded all previous seasons. The acreage of legumes has increased rapidly in the gray soil or wooded sections of the Province. This increased acreage, together with better than average yields, resulted in cash crops of high value from small acreages. Alsike and altaswede clover

have more than doubled in seed production. Alfalfa seed has also shown a sharp increase. This development in forage crops has and will continue to contribute largely to the settlement of many areas of land in western and northern Alberta.

Contract crops such as sugar beets, canning crops, seed peas, and vegetable seeds continue to be major crops with farmers on irrigated land. The acreage of peas grown in the parkland belt and on the grey soils suffered considerable damage from drought. Crops matured early, and later became heavily infested with weeds. Farmers, however, will continue with the production of peas in spite of the decreased yields because returns per acre were still comparable to other grain crops.

Potato production has become increasingly important under irrigation. Growers are recognizing the value of good seed, and every effort has been made to reduce disease losses to a minimum.

Mustard and rape seeds continued to be grown satisfactorily on the open prairie of southern Alberta. These crops would grow equally well on the heavier soils of central Alberta; however, it has been considered advisable to encourage production only in areas where mustard can be grown and harvested without danger of infesting fields by volunteer crops.

At the close of the year farmers look optimistically towards grain production because of assurance given that over a five-year period wheat prices will not fall below one dollar per bushel, basis Fort William. Although equal assurance with respect to price stabilization of oats and barley has not been given, the trend is towards greater production. It is to be noted with some alarm, however, that coarse grains will be planted primarily to be marketed as cash crops rather than to be used for live stock feed on Alberta farms.

The following table gives the acreage and production of field crops in Alberta in 1944 and 1945:

Crop	1944 Acres	1945 Acres	1944 bus per acre	1945 bus. per acre	1944 Bushelage	1945 Bushelage
Spring Wheat	6,738,000	6,824,000	15.7	12.2	105,700,000	83,000,000
Oats	3,191,600	3,335,000	35.0	22.8	111,800,000	76,000,000
Barley	1,941,900	2,048,000	26.6	17.6	51,700,000	36,000,000
Fall Rye	82,150	83,000	15.0	14.5	1,233,000	1,204,000
Spring Rye	48,500	42,000	9.6	6.5	464,000	273,000
All Rye	130,650	125,000	13.0	11.8	1,697,000	1,477,000
Peas	22,000	24,700	11.5	10.0	253,000	247,000
Beans	300	200	18.0	10.0	5,000	2,000
Mixed Grains	50,600	62,600	32.0	22.0	1,619,000	1,377,000
Flaxseed	191,500	119,000	6.5	6.5	1,243,000	774,000
Potatoes	28,700	25,900	cwt.	cwt.	2,153,000	1,554,000
Turnips	4,400	3,100	107.0	63.0	471,000	195,000
Hay and Clover	702,700	692,000	tons	tons	984,000	830,000
Alfalfa	249,200	674,700	2.30	1.95	573,000	536,000
Fodder Corn	11,000	9,100	6.30	4.25	69,000	39,000
Sugar Beets	28,700	30,300	11.74	11.72	337,000	355,000

FORAGE CROP POLICY

The establishment of a permanent type of agriculture in this Province is dependent upon a more general use of forage crops. They are important from several standpoints including soil conservation and improvement, weed control, and live stock production as well as efficient farm management. During recent years the Field Crops Branch has given a good deal of attention to the promotion of these crops. It is encouraging to note that there has been a marked increase in their use during the past five years. War conditions, no

doubt, were partly responsible for this trend, but we believe that their value is now appreciated to a far greater extent than ever before. For this reason a continued widespread use of forage crops in the Province is anticipated.

The initial problem was one of education. It was necessary to introduce suitable grasses and legumes and to acquaint farmers with proper seeding and management practices. For this purpose the Provincial Government, at times in conjunction with the Dominion Government and Municipalities, sponsored encouragement policies under which farmers obtained limited quantities of seed at reduced prices. In many areas the initial objectives of these policies have now been fulfilled. It is still necessary, however, to assure adequate supplies of seed to meet farmers' needs and to promote a more general and proper utilization of these crops.

The Forage Crop Encouragement Policy in operation during 1945 established a reserve of grass and legume seeds for Alberta farmers and provided readily available seed ordering and delivery facilities. Although the policy permitted the purchase of limited quantities of seed by farmers in a few approved areas at approximately two-thirds cost, most of the seed was sold at cost price, freight prepaid. At 197 strategically located points throughout the Province, facilities for seed distribution were established.

Because of the strong demand for Alberta grown grass and legume seeds on the export market, a particularly important function of the Forage Crop Policy continues to be the reserving of adequate supplies of seed to meet the needs of farmers. An encouragement policy cannot be effective if seed supplies are not readily available at seeding time.

A summary of seed distribution for the years 1942 to 1945 (inclusive) is as follows:

Kind of Seed	Pounds of Seed Distributed				Price
	1942	1943	1944	1945	1945
Alfalfa	98,238	143,323	161,000	170,435	34c
Red Clover	7,450	12,095	8,925	28,645	31c
Alsike Clover	6,450	13,089	26,200	35,464	28c
Sweet Clover	26,185	75,759	85,000	116,890	13c
Timothy-Alsike Mixture	3,115	3,486	6,000	10,982	18c
Timothy	12,690	37,003	40,000	39,190	11c
Crested Wheat	41,225	53,640	44,436	44,035	14c
Red Fescue		1,404	2,000	1,753	60c
Red Top	340	550	220	68	
Brome	68,253	163,706	152,000	161,845	15c
Alfalfa-Sweet Clover				6,785	20c
Mixed Clovers and Timothy				4,662	18c
Alsike-White Dutch				1,077	
	263,936	504,055	525,781	622,456	

Alfalfa, brome and sweet clover are in greatest demand. Sweet clover is grown mainly in Central Alberta, but alfalfa and brome are being seeded in all parts of the Province. Crested wheat is confined mainly to the drier open prairie sections where it is a valuable hay and pasture crop and is used in range reclamation. Red clover, alsike, and timothy are in demand in the grey and black soil areas where precipitation is ample for their growth. The large increase in the sale of red clover may be accounted for by the fact that there has been considerable expansion in the acreage grown for seed. Creeping red fescue is also gaining importance as a seed crop, particularly in the Peace River country.

In conjunction with the Forage Crop Policy, the Field Crops Branch has stressed the importance of proper legume inoculation, careful seeding and management practices and the use of grass-

legume mixtures for forage purposes. To ensure the inoculation of legume seeds, tins of nitro-culture were placed in all sacks of seed distributed. Farmers in districts suitable for seed production have been supplied with the best seed obtainable.

FIELD PEAS ENCOURAGEMENT POLICY

There is a continued increase in the acreage of field peas, particularly in the grey-wooded soil areas. Indications are that this crop will become more important in the cropping programme of mixed farming areas where a rotation is followed that permits it to be grown on land that is comparatively free of weeds. In order to obtain information in this regard the Field Crops Branch shared the cost of supplying four-bushel lots of seed of the variety Early Blue to each of 17 farmers who entered an agreement to pay approximately half the cost of the seed, to adopt recommended seeding and harvesting practices, and to report the results obtained. Where moisture conditions were favourable the crops produced were quite satisfactory.

The production of seed peas by farmers under contract with seed firms was continued, and some companies extended their operations considerably. Hail and drought took a heavy toll, and in a small area west of Innisfail spring frost destroyed the crop. Where weather hazards did not affect the crop it was a satisfactory source of revenue when seeded on clean land.

CREEPING RED FESCUE ENCOURAGEMENT POLICY

Because creeping red fescue possesses many desirable qualities as a pasture and hay crop, and because the seed of this grass is not being produced in sufficient quantities to meet requirements, the Field Crops Branch sponsored an encouragement policy under which seven farmers in selected areas were supplied with limited quantities of seed at half-price. This was a continuation of a policy inaugurated in 1944 in which twenty-four farmers were supplied with seed. Most of the seed was sown for seed production, but some was included in hay and pasture mixtures. Reports indicate that this grass is an excellent one as a part of a pasture mixture.

PRODUCTION AND SALE OF REGISTERED AND CERTIFIED SEED

The production of registered and certified seed continued to hold an important place in our farm economy. If we are to maintain our strong export market for seed as well as for commercial grain, it is essential that a good supply of carefully selected seed stocks be available to grain growers in Alberta. We are particularly favoured in having both soil and climate conducive to the production of high quality seed, and have developed an increasing demand for Alberta grown seed in Eastern Canada and the United States.

The higher general level of returns for cereal grains which prevailed during the past three years directed increased attention towards the importance of seed stocks, with the result that there was a definite increase in local demand for good seed, particularly of the coarse grains. On the other hand, seed growers were handicapped by wartime shortages of labour and seed cleaning machinery. Consequently, a large volume of the seed crop eligible for the best seed grades was marketed commercially without being processed to meet the requirements for registration or certification.

The following is a summary of the crops inspected for registration and certification this season:

Kind of Seed	Registered Seed			Certified Seed		
	No. Growers	Acreage	Est. Yield (bus.)	No. Growers	Acreage	Est. Yield (bus.)
Wheat	181	8,439	203,903	9	423	11,550
Oats	449	12,640	555,397	95	5,283	233,275
Barley	148	2,609	95,313	33	1,230	49,395
Peas	1	3	100			
Flax	20	865	10,305	11	468	4,394
			lbs.			lbs.
Alfalfa	128	2,698	444,400	26	550	83,600
Brome	3	224	17,900	145	6,699	1,198,500
Crested Wheat	2	57	10,000	2	53	2,800
Creeping Red Fescue	5	38	1,550	26	1,205	280,050
Red Clover	6	34	6,125	3	14	3,150
Sweet Clover	1	25	2,500	1	25	2,500

FORAGE CROP SEED PRODUCTION

There has been a marked increase in acreage seeded to forage crops for seed production in recent years. Wartime restrictions on wheat marketing, attractive prices for live stock and dairy products, greater availability of seed through operation of the Provincial Encouragement Policy, labour shortages, weed problems and promotional work on the part of agricultural authorities have all had a bearing on this trend. Further, some areas in Alberta have proven exceptionally well adapted to grass and legume seed production. All these factors, together with the strong export market for seed at attractive prices, have tended to stimulate forage seed production in Alberta.

The production of clover seeds continued to increase in popularity throughout the grey wooded soil areas, but the failure of alfalfa to set seed satisfactorily in many districts was quite disappointing. Exceptionally profitable returns from sweet clover seed crops have encouraged a large increase in production, and unless export markets absorb greater quantities, a considerable decline in its price and popularity is to be expected.

There is considerable interest on the part of alfalfa seed growers in the variety Ferax. Five growers had a total of 45 acres inspected for registration. With yields somewhat better than average a considerable quantity will be available for distribution.

Creeping red fescue seed production which has been carried on mainly by a few growers in the Olds and Innisfail districts was taken up in other areas, particularly in the Peace River country. Five growers with a total of 38½ acres had this crop inspected for registration in 1945. The acreage and production of certified seed was up about 65% over 1944, and further increases were indicated. There was an estimated yield of 280,000 pounds. In some areas we must now discourage farmers from devoting too large a percentage of their cultivated acreage to forage seed production. A crop failure or a reduced demand could be disastrous where a proper balance is not maintained. In all areas where seed is produced emphasis needs to be placed on the production of pure seed of high quality. Growers generally are not inclined to recognize the specialized nature of a sound seed production programme. While the present strong demand continues, satisfactory returns will be received from seed that is not of top quality as well as for mixtures, but the grower who becomes an expert in quality seed production will continue to find a market for his product when less favourable conditions obtain.

Methods of harvesting forage crop seeds have not become standardized and require considerable study. A preliminary survey of methods for threshing legume seeds was made during the harvest season by the Field Crops Branch in co-operation with B. T. Stephanson, Agricultural Engineer, and E. G. Wood, District Agriculturist, Westlock. This indicated that where the combine is being used it is being operated reasonably efficiently if manufacturers' recommendations are followed. However, heavy losses were sustained in most cases where the threshing machine was used. The trend is towards straight combining, but it was found that losses from shelling amounted in some cases to more than 50% of the alsike crop when this method was followed. Appreciable losses of alfalfa seed also occurred through pods breaking off when the crop was left standing for combining.

The cleaning, grading, packaging and marketing of grass and legume seeds present special problems which have stimulated interest in growers' co-operatives. The Alberta Seed Growers' Association with its affiliated district associations operate large, well equipped seed cleaning and warehousing establishments at Camrose and Coronation. Sixteen smaller warehouses of the Association for assembling seed shipments were in operation at other points in the Province. Other co-operatives located at Grande Prairie and at Pincher Creek provided similar services for seed growers in their respective areas.

The following figures give the estimated production in Alberta of the most important forage seed crops:

	AVERAGE				
	1937-41 (lbs)	1942 (lbs)	1943 (lbs.)	1944 (lbs)	1945 (lbs)
Alfalfa	421,000	2,000,000	1,450,000	2,500,000	4,000,000
Sweet Clover	597,000	2,000,000	1,500,000	4,000,000	4,000,000
Red Clover	110,000	240,000	450,000	475,000	1,300,000
Alsike	130,000	430,000	200,000	500,000	1,200,000
Timothy	880,000	1,350,000	1,000,000	1,200,000	1,000,000
Crested Wheat	320,000	250,000	300,000	250,000	200,000
Brome	1,750,000	3,500,000	4,000,000	4,000,000	4,000,000
Creeping Red Fescue	39,000	120,000	190,000	300,000	850,000

THE ALBERTA CROP IMPROVEMENT ASSOCIATION

This Association has concerned itself particularly with the problems of encouraging a wider use of registered and certified cereal grains. Through co-operation of the grain companies and the Alberta Seed Growers' Association arrangements were made whereby grain elevator agents were authorized to accept farmers' orders for registered and certified seed. So successful was the Association in meeting its objective that the problem this year was to obtain enough seed to supply the demand. Scarcity of farm help, which made it difficult for growers to get seed cleaned and sacked, was also a factor in creating this problem.

The Association is directed by a committee which represents the North West Line Elevator Association; the farmer owned elevator companies; the Plant Products Division, Dominion Department of Agriculture; the Alberta Seed Growers' Association; the Canadian Seed Growers' Association (Alberta Branch), the University of Alberta; and the Alberta Department of Agriculture.

Registered and certified seed grain marketed directly through the Alberta Crop Improvement Association in 1945 in comparison with previous years was as follows:

	1941, bus.	1942, bus.	1943, bus.	1944, bus.	1945, bus.
Wheat	16,000	5,961	3,000	9,232	20,014
Oats	99,000	34,659	10,500	16,011	11,670
Barley	4,500	4,349	2,500	6,579	2,450
Flax	.	868		1,215	328
Rye	.	.			6

In addition to the above, the activities of the Association stimulated widespread interest in the use of good seed. Available supplies were widely advertised through country elevators, and as a result many bushels of which no estimate could be made were obtained by farmers.

THE ALBERTA VARIETAL ZONATION COMMITTEE

The purpose of this committee is to co-ordinate the findings of the various experimental agencies in the Province and to recommend the varieties of field crops best suited to the different agricultural zones in Alberta. The committee is composed of representatives of the following: Department of Plant Science, and Department of Soils, University of Alberta; Provincial Field Crops Branch; Provincial Schools of Agriculture; Dominion Experimental Farms Service; Plant Products Division, Dominion Department of Agriculture; Dominion Laboratory of Plant Pathology, Edmonton.

The recommendations of this committee were printed in bulletin form by the Field Crops Branch and widely distributed throughout the Province.

On the recommendation of the committee, tests of six varieties of peas were undertaken by Dominion Experimental Stations in the Province, the University of Alberta, the Olds School of Agriculture and the Brooks Horticultural Station. By continuing such tests it will be possible to give reliable recommendations in regard to pea varieties.

CERTIFIED SEED POTATOES

The number of growers of foundation and certified seed potatoes and the total marketings of the 1944 seed crop officially graded and tagged were as follows:

Variety	No. of Growers	Quantity (cwt)
Netted Gem	30	4,730
Carter's Early Favourite	9	118
Irish Cobblers	2	12
Warba	1	21
Early Ohio	1	6
Bliss Triumph	1	3

The acreages of the 1945 seed potatoes which passed field inspection were:

Variety	Acres	Variety	Acres
Netted Gem	355	Warba	3
Carter's Early Favourite	7	Other varieties	5
Irish Cobblers	1		

INDEXED FOUNDATION SEED POTATOES

In order to maintain the production of good quality seed potatoes the Field Crops Branch continued to assist in producing indexed foundation stock. Through co-operation with the University of Alberta and the Seed Potato Inspection Service of the Dominion Department of Agriculture, 835 tubers were tested in the green house for freedom from disease. From these, seven growers received approved indexed stocks of seed of seven different varieties. The foundation stock so produced should assist in improving the type of potatoes grown in the Province.

PROVINCIAL JUNIOR GRAIN SHOW

The annual Provincial Junior Grain Show, which proved so successful during the two previous years, was again well supported. It was held at the School of Agriculture, Olds, at the time of their "Little Royal" in March. Only one quart of grain was required for an exhibit, so that it became largely a contest in the skill of the exhibitor in producing and preparing his exhibit. Such a challenge has an appeal to farm youth. High standards of seed are established in the minds of both the exhibitors and visitors, and greater discrimination is developed in appraising the value of grain and seed.

Competition was open to all Alberta farm young people between the ages of 12 and 22 years (inclusive). There were 109 entries in the three open classes of grain, and the quality of the exhibits was generally of an exceptionally high standard. A class was provided for representative samples of bulk lots of cleaned seed of malting barley in the farmers' bins. There were seven entries in this class. In order to encourage entries from new exhibitors, special prizes were offered. Twenty-eight per cent of the exhibits shown were from beginners.

A total of 313 samples of grain and seed were on display at the show. Many visitors viewed the exhibit during the day of the "Little Royal," and later the display was set up at the time of the Junior Farm and Home Club Week at the Olds School of Agriculture in July.

PORTABLE SEED CLEANERS

The limiting factor in expanding the services offered by the portable seed cleaner policy continued to be a shortage of seed cleaning equipment. One additional seed cleaner association was organized at Viking; however, only a second-hand grain cleaner could be obtained for this purpose. Many applications were received for new equipment, and although seed cleaning machinery was ordered of the type in use by organized associations no assurance of obtaining the machines before July of 1946 was received.

Grain cleaning portable units continued to be operated by Dickson, Willingdon, Innisfail, Gage, Berwyn, Fairview, Grande Prairie, Airdrie, Sangudo, Cherhill, Springbank and South Edmonton Associations. The Airdrie cleaner was destroyed by fire early in January of 1945.

WEED CONTROL

The very backward growing conditions in 1945 favoured the growth of weeds, particularly the perennial types. Crops in general were very weedy. Early in the season the weather was dry, cold and windy with serious soil drifting in southern Alberta. Very serious drifting occurred in the Berwyn-Fairview area in October.

A new approach to the problem of weed control and land utilization was instituted through the passing of The Agricultural Service Board Act by the Provincial Legislature in February, 1945. The Noxious Weeds Act, while still useful in enforcing control, has not proven adequate in rehabilitating land which has had its productive capacity impaired through poor farming practices and general neglect.

The Agricultural Service Board consists of two members of the Municipal Council, two ratepayers and the local District Agricul-

turist. It acts in an advisory capacity both to the Municipal Council and the Department of Agriculture. The policy with respect to weed control includes the appointing of a full-time supervisor who has all the powers conferred on an inspector through The Noxious Weeds Act, and who carried out the weed control programme under the direction of the Board by and with the advice of the District Agriculturist. The general policy of the Board is to develop farm programmes capable of controlling weeds under local conditions. Where circumstances warrant, the Board is empowered to employ measures of effective persuasion to obtain its objectives. The Board has the authority to supervise, direct and, if necessary, control lands which through neglect or inefficiency are debilitated or are becoming debilitated.

Projects undertaken by the different Boards vary considerably, but include demonstrations of weed control methods, the care of weeds on municipal lands and road allowances, and general farm management projects on neglected lands taken under their control.

The greatest handicap towards instituting this programme was the lack of qualified men to act as supervisors. Thirteen municipalities were able to obtain the services of qualified fieldmen, while an additional fifteen have formed boards and have outlined plans for future activities. Others have discussed the matter at some length, and have planned on appointing supervisors for the 1946 season.

While The Agricultural Service Board Act provides for the forming of Service Boards in Local Improvement Districts, the initial organizations have been established in municipalities. Twenty-three Local Improvement District Weed Inspectors were hired by the Department of Agriculture, while five Supervisors were appointed to give general advice and assistance in combatting the weed problem.

Demonstration plots, with fall rye laid down in the fall of 1944 for the control of perennial and annual weeds, were a real success in spite of adverse growing conditions encountered in 1945. Few annual plants were able to survive the competition. Canada thistle attained a height of eight or nine inches in only a few cases, and even such difficult perennials as hoary cress and leafy spurge found difficulty in producing any appreciable growth. A particularly encouraging feature of the fall rye plots was the absence of wild oats, wild mustard and tartary buckwheat. The results of the tests with fall rye in 1945 would seem to justify its use in the control of almost any weeds occurring in Alberta.

Fields seeded to Olli barley in the spring of 1945 for the control of Canada thistle were also very satisfactory. It is, however, important to seed the barley at the proper time. Where it was seeded early and heavily, it was ready to cut before the Canada thistle bloomed, and cultivation could start at the ideal period in the life cycle of this weed. Where seeded late the thistle gained an early advantage over the barley and bloomed before the grain was ready to harvest.

Forage crops included in the tests demonstrated their ability to compete with all classes of weeds excepting the very persistent perennials. The value of forage crops in improving the fertility of the soil and restoring fibre has been demonstrated as well as their efficiency in weed control.

Several demonstrations of the control of annual weeds, particularly wild mustard and tartary buckwheat, by the use of Sinox and cultural practices were laid down in the spring of 1945. The National Grain Company co-operated in this project by spraying Sinox on one plot in each of the tests. Heavy rates of seeding, the use of fertilizer and post seeding cultivation separately and in combination were tested. In order to measure the degree of weed infestation on the various plots the numbers of weeds and grain plants were counted on ten randomized sward yard areas in each plot. Weeds on the areas treated with Sinox were again counted after spraying in order to determine the effectiveness of the spray. The results are given in Table 1.

TABLE 1
PLANT COUNTS IN ANNUAL WEED CONTROL FIELD TRIALS, 1945
Average number of weeds and grain plants in ten randomized square yard plots

Kind of Crop	Before Spraying			After Spraying		
	Wild Mustard	Other Weeds	Grain	Wild Mustard	Other Weeds	Grain
Elofson, Ponoka —Barley	819.6	312.6	160.8	70.5	85.8	188.4
Larson, Ponoka —Barley	887.0	250.2	133.4	27.0	83.0	163.0
Willson, Red Deer —Barley	232.2	197.8	174.6		.06	181.0
Hilshoot, Morinville—Barley	487.9	57.9	212.4	.03	.03	211.2
MacKenzie, Fort Saskatchewan —Oats	330.2	283.2	246.2	6.0	4.8	242.7
Olds —Oats	135.0	130.9	192.6		.12	196.2
	Tartary Buckwheat			Tartary Buckwheat		
Gulevitch, Mundare—Wheat	373.6	584.1	178.3	12.6	9.6	205.9

It is apparent that Sinox was very effective in killing practically all of the common broad leaved annuals in the early stages of growth. Table 2 gives the yields from the various plots.

TABLE 2
YIELDS OF GRAIN IN ANNUAL WEED CONTROL FIELD TRIALS, 1945
(Bushels per acre)

Farmers Co-operating and Location:	A. Elofson, Ponoka	E. Larson, Ponoka	Willson, Red Deer	T. Hilshoot, Morinville	W. MacKenzie, Fort Sask.	Olds	M. Gulevitch, Mundare*
Treatment	Barley	Barley	Barley	Barley	Oats	Oats	Wheat
Check	20.81	15.14	37.76	35.72	44.15	69.37	27.07
Sinox	24.71	18.47	44.14	35.06	60.17	89.67	36.15
Heavy Seeding	22.70	15.92	41.39	35.06			
Fertilizer	34.06	26.71					
H.S., P.S.C.	29.83	30.72	37.29	47.97			
H.S., P.S.C. Fertilizer	34.84	30.16	48.19	56.09			
M.S.D.	6.15	5.73	5.75	4.91	9.42	9.42	5.77

Fertilizer—A.P. 11-48 at 30 pounds per acre.

H.S.—Heavy rate of seeding—50% more than normal.

P.S.C.—Post seeding cultivation (rod weeder or wire weeder used).

M.S.D.—Minimum significant difference.

Plot size—One drill width (10-14'), minimum length $\frac{1}{4}$ of a mile, although most fields $\frac{1}{2}$ mile in length.

Samples—10 square yard samples per plot.

*Mundare test on Tartarian Buckwheat.

Field work by Field Crops Branch, Provincial Department of Agriculture.

Statistical Analysis by Plant Science, University of Alberta.

From the results of one year's trial it is evident that Sinox is effective in increasing yields by destroying annual weeds.

The table also indicates that heavy seeding, cultivation after seeding, and the use of fertilizer have a definite place in weed control. In view of the very significant increases obtained in the tests carried out in 1945, it would appear very desirable to enlarge upon this work in the future.

A number of tests with the new hormone weedicide 2-4-Dichlorophenoxyacetic acid (2-4-D) were laid down in 1945, but as this

is a relatively slow acting chemical more tests will have to be carried on before its effectiveness on perennial weeds can be determined. 2-4-D is definitely selective in its effect on plant growth and shows much promise for the control of lawn weeds, including dandelions. Many compounds of similar nature will be offered for sale in the near future. Adequate field tests should be conducted in order to determine their use as effective weedicides.

Increased quantities of sodium chlorate were used in 1945 with over 100,000 pounds being distributed. This was used chiefly for treating hoary cress, leafy spurge and field bindweed, although a considerable quantity was also used on small areas of other perennial weeds. It was distributed at cost to farmers through municipal offices and by weed inspectors.

Weed infested Crown lands, primarily infested lake shores, have continued to present difficult weed control problems. A co-operative arrangement for handling these areas has met with a fair measure of success. Farmers have been granted suitable lease terms by the Department of Lands and Mines provided they adequately prepare infested land for seeding to forage crops. The Department of Agriculture has supplied suitable seed mixtures where the planting is supervised by a municipal fieldman. Where Crown lands have become weed infested through neglect or inefficient handling, lease cancellations have been recommended.

PEST CONTROL

General.

The gradual upward trend in the crop pest problem of the Province levelled off slightly in 1945. The cold, wet spring over most of the Province significantly reduced the populations of some of the more troublesome insects. No new crop predators appeared this year. Crop diseases showed about the same degree of persistence as formerly, while control efforts achieved somewhat greater success this year than in the past.

Grasshoppers.

Due to unfavourable spring weather, the grasshopper hatch was late and incomplete. Spring sown crops progressed well and withstood feeding without harm. By midsummer, however, grasshopper populations had developed to outbreak proportions in some districts, notably about Stavely, Claresholm, Barons, Macleod and Coaldale. The control campaign this season was particularly successful.

Cover crops seeded on summer fallow fields in the south-west to prevent soil erosion were vulnerable to grasshopper attack in August and September. Winter wheat in the area south and east of Lethbridge was in a similar position, and a vigorous baiting programme was launched to save these crops. It is estimated that while about 5,000 acres of grain were destroyed by grasshoppers this season, at least 60,000 acres, largely cover crops and winter wheat, were saved from destruction.

Some data is presented in the following table comparing various aspects of the 1944 and 1945 grasshopper campaigns:

	1944	1945
Acres of land in area	8,500,000	10,500,000
Acres of crop land menaced	295,000	158,000
Number of stations operated	26	18
Bushels of poisoned bait spread	84,000	83,000
Number of farmers receiving bait	1,022	560
Estimated acres of crop destroyed	11,000	5,000
Estimated acres of crop saved	80,000	60,000

Wheat Stem Sawfly.

The heading of wheat crops throughout most sawfly infested sections of the Province was delayed approximately two weeks this season by cold, wet weather. Although the sawfly flight was also delayed slightly, most late seeded wheat escaped injury. It is estimated that crop loss this year amounted to approximately 4,000,000 bushels of wheat. Parasitization continued to hold down sawfly populations in limited areas of heavy soil, notably in the Drumheller and Consort districts. Elsewhere the population was quite heavy, and is expected to be maintained into the 1946 crop season.

The policy of encouraging farmers to adopt recommended cultural practices to control this pest was continued and extended during the past season. In certain heavily infested districts, such as Milo, Blackie and Mossleigh, special community control projects were instituted under the immediate supervision of District Agriculturists and officials of the Dominion Entomological Laboratory at Lethbridge. Here large control blocks were set up within which each farmer was individually instructed and encouraged to undertake appropriate measures to reduce sawfly populations on his farm. Very satisfactory co-operation was obtained, and the project successfully demonstrated to farmers here and in adjacent districts that the sawfly can be controlled on a community scale with adequate organization and co-operative effort.

Minor Crop Pests.

The outbreak of red-backed cutworms which was expected to occur throughout much of the Peace River area failed to mature. Preparations were made to meet the threat, but no serious losses were reported. The pale western cutworm in Southern Alberta did not cause serious damage this year.

Wireworms caused crop losses in a few isolated sections of Southern Alberta. Here most damage was repaired by heavy stooling during cool weather. In Central and Northern Alberta adverse growing conditions delayed crop growth, during which time wireworms caused considerable damage, particularly to barley. This damage was confined largely to lighter soil localities, and crops affected did not recover as in other seasons.

The outbreak of Colorado potato beetles continued severe for its fourth consecutive year in Central Alberta. In the south it was a serious pest of potatoes as usual, and considerable defoliation and consequent yield reduction occurred. The shortage of farm help made complete protection of crops from this pest difficult this year.

The control of psyllids in greenhouses throughout the Province has been very satisfactory this season, and consequently very few cases of necrotic potatoes from this cause were found. Damage to hothouse tomatoes by this pest was also slight.

The potato flea beetle and the Western wheat aphid, whose appearance in Alberta in 1944 caused some concern, were not in evidence this season.

The pea weevil situation is being carefully studied to determine whether it is likely to become a menace to the seed pea producing industry in Southern Alberta. No additional evidence was found this year to cause concern over this insect.

Rodents.

Columbian ground squirrels were less active this season than in the past few years. Although some damage to crops and gardens occurred, particularly in the Cowley-Lundbreck area, their activity was greatly reduced by cold weather. Efforts to locate a suitable poisoned bait were continued, but due to the unsuitable weather for baiting, results were incomplete. Further work is planned for next season.

Reports of damage from pocket gophers in the black soil areas of the Province were very numerous this year. A considerable amount of information was distributed to farmers to instruct them in measures to be taken against this pest.

Warble Flies.

The heel fly continued troublesome, although reports of cattle gadding were less frequent than usual. This year's campaign against the heel fly has been very successful. Extensive publicity was given through the press and radio. Posters, handbills, public meetings and personal contacts were widely employed to popularize the practice of treating cattle for warbles in the early spring.

Warble fly control increased in popularity both in farming districts where small herds have to be treated by hand, and in the ranching areas where power spraying is feasible. There were 75 power spraying units in operation in the southern areas. Stress was placed this season on control by communities.

The first step was taken toward the inauguration of compulsory control measures this season when the Eastern Irrigation District and the Municipal District of Pincher Creek requested authority to enforce control within their boundaries. Plebiscites were taken which showed that within these two districts at least 75% of all cattle owners desired enforcement of control. An Order in Council was passed giving the Province authority to insist that all cattle within these areas be treated, and local organizations established under official supervision, were successful in having practically all cattle in these two areas properly treated for the pest.

This season the number of cattle treated for warbles was practically doubled. In 1944 it was estimated that nearly 400,000 were treated. This season the number was increased to 800,000 head. This represents approximately one-half of Alberta's total cattle population.

CROP DISEASES

Bacterial wilt and crown rot in alfalfa continue to be the most troublesome diseases of forage crops. Reports of crown rot were not as frequent as in the past, while bacterial wilt appeared to be spreading to more alfalfa fields, and was appearing in districts where it had not previously been found. This was particularly the case in Central Alberta.

Smut damage was reported in cereal crops in many districts. It was found to occur in considerable amounts in practically all fields of winter wheat in Southern Alberta.

Bacterial Ring Rot.

This destructive disease of potatoes was discovered in Alberta in 1937 when two cases were found. The infection spread rapidly through commercial potato growing areas until 1940, when it had become a serious threat to Alberta's potato industry. In that year special control measures were implemented. In 1942 all districts where ring rot had been found were placed under a modified quarantine by authority of The Agricultural Pests Act. The annual survey conducted in 1943 showed that despite efforts to curb its progress, ring rot had claimed 1,775 acres of potatoes in Alberta. The damage occurred largely in southern irrigated districts, with scattered cases among the market gardens surrounding Calgary, Medicine Hat and Drumheller. In each successive year regulations governing the planting, producing and marketing of potatoes within the established pest areas have been gradually tightened to constitute a virtual quarantine with two objects in view: (a) to reduce the infection within affected areas, and (b) to protect all other sections of Alberta and neighbouring provinces from the epidemic.

The 1944 annual field survey produced the first evidence that the battle against ring rot was actually being won. Until that time the disease had continued to spread, although at a regularly decreasing rate. That year, while the number of infected farms was barely higher than in the previous year, an actual reduction in the acreage of diseased potatoes had been achieved. The same year, however, two cases were discovered at Edmonton. Modified quarantine regulations were immediately applied there.

Measures applied again this season have not only consolidated previous gains, but have won considerable new ground. The following table illustrates the rapid growth of the ring rot epidemic in Alberta from 1937 to 1943, and its reduction to date:

	1937	1938	1939	1940	1941	1942	1943	1944	1945
Number of farms inspected			680	261	430	406	965	1,010	1,198
Number of farms found diseased	2	23	40	73	102	151	235	241	137
Increase from previous year		21	17	33	29	49	84	6	-104

It is significant that while the scope of the annual surveys has been steadily enlarged the yearly increase in number of farms found with diseased crops fell off from 84 to 6 in 1944. This season a further reduction of 104, or 43%, in the number of farms with diseased crops has been achieved. There were 536 less acres of diseased potatoes this year than last. In 1944, 23.8% of all farms and 28.5% of all acres inspected were found to be infected with ring rot. This season only 11.4% of the farms and 17.4% of the acres inspected were diseased.

The intensity of ring rot in the fields has again been reduced. A year ago the average intensity over all fields found diseased was 4%, while 45 acres showed more than 10% infection. This year the average intensity in all infected fields was under 3%, while there were less than 20 acres showing more than 10% of plants affected. Considering the contagious nature of bacterial ring rot the control obtained this season can be considered very satisfactory. The factors contributing most to the encouraging reduction of the problem in Alberta have been:

- * (1) The introduction of disease free seed.
- (2) Vigorous enforcement of quarantine regulations which include regulating the quality of seed planted and the prompt disposal of infected stocks into safe markets.
- (3) Continued education respecting sanitation and other necessary precautions against infection.

*NOTE: A programme of seed potato production is being carried on in conjunction with other ringrot control measures. Farmers in a ringrot-free district are contracted to produce Certified and Foundation A seed. This is shipped into pest areas, and a considerable amount of it is multiplied under special supervision for the Department. The following year all of these stocks are distributed to growers within the affected areas for planting. This section of the programme was expanded this season to such an extent that there will be sufficient supplies of these specially protected potatoes available to fill next spring's needs of all growers whose stocks were found infected this year.

FARMSTEAD PLANNING SERVICE

This service was inaugurated and organized during the previous year to assist farmers in developing their farmsteads for greater efficiency, comfort and beauty. Many farmers have found that the present layout of their home grounds is entirely inadequate for present conditions. Their farmsteads are largely the result of pioneer conditions. Since that time many changes have taken place. Railroads, market towns, highways, milk and mail routes, schools and community centres, and in some cases telephone and power lines have become established. These have changed the whole outlook of the farm enterprise. As old buildings require replacement, farmers are concerned with improving the old home site or with the possibility of selecting a new one. The complete removal of trees, bluffs or forests from the district have often left farm homes exposed to the extremes of climate. Farmers are therefore also turning their thoughts more and more toward the planning and planting of their home grounds to temper the storms. Many farmers' sons and returned war veterans are establishing new homes on the land.

During the year a large number of farmstead plans were prepared for individual farmers, designed to conform to the special conditions and circumstances of each farm. One important objective of this effort was to discover some basic plans that, with various modifications, could be adapted to many farm home situations throughout the Province. Two such basic plans have been prepared for publication in a bulletin for distribution to farmers of the Province. It is our wish that the illustrations and subject matter will be presented in so practical a form that farmers generally will be able to plan their own farmsteads to good advantage. There are certain far-reaching advantages in self-planned layouts for our farms. The farmer knows best of all, the special conditions of his farm and business as well as the personal preferences of the family unit. Then, too, a farmer will take more interest and pride in working out a plan of his own making. He can better visualize the completed plan and will take greater satisfaction in achieving the product of his own mind. Furthermore there will be greater diversity of types of farmstead development that may point the way to greater improvement of Alberta farm homes.

Considerable correspondence was obtained from farmers seeking special information, and many horticultural questions were handled from this office. Investigation was continued on shelter-belt and ornamental planting problems. Additional lantern slides have been

obtained for educational purposes. Farmers meetings were attended and illustrated talks given. A certain portion of time was spent in judging horticultural exhibits at fairs, in giving radio talks and in educational activities. Several tours were made during the season inspecting and pruning demonstration orchards in co-operation with the Provincial Horticultural Station extension projects.

Considerable work was done in designing, illustrating and planning a new bulletin on Farmstead Planning and Home Beautification. This bulletin should be ready for distribution early in 1946.

REPORT OF LIVE STOCK COMMISSIONER

(A. A. CAMPBELL)

A production record of cattle was established during the year. The June survey has shown an increase of 118,200 head of cattle on farms, and the total number of cattle and calves marketed is the largest on record, while daily, weekly, and monthly marketing records were established. Despite this exceptional marketing of cattle, prices continued satisfactory. The prices on lower grades of cattle which, in heavy marketing periods nominally are drastically cut, held steady. This was due to war time contracts for canned meats which, in peace time, are non-existent. Good to choice cattle were in good demand at all times. Feeder cattle in the late fall and early winter were obtained at satisfactory prices, and community auction sales also received good support.

Unusually dry weather prevailed throughout extensive areas, resulting in fewer cattle being fed. The southern foothills area had more than average rainfall prior to July, furnishing excellent pasture and a heavy hay crop. Cover crops were blanketed by heavy snowfalls in each of the fall months, necessitating the early removal of cattle to feed lots for further finishing. Considerable financial loss was experienced by operators due to heavy shrinkage in weight of cattle and inability to utilize cover crop feed supplies purchased at exceedingly high prices.

Considering the adverse crop and forage growth which prevailed over an expansive area, more particularly during the early growing season, cattle entered the winter in good condition.

The demand for dairy cattle continues to exceed the supply. The highly subsidized market for dairy products is being reflected in the prices being offered and paid for dairy breeding stock, resulting in a marked scarcity of breeding stock, particularly springer cows or heifers. Moreover, large numbers of dairy cattle have been exported to Mexico, South American countries, and other provinces.

Private and Exhibition Association sales of pure-bred cattle continue to bring very high prices for all offerings of good breeding and quality. Record prices were established at a number of sales during the year.

At the first annual sale of Shorthorns held at Edmonton, on May 15th by Claude Gallinger, 33 young Shorthorns sold for a total of \$51,875, an average of \$1,572. Twenty-three bulls averaged \$1,713, and ten heifers averaged \$1,247. The high price at this sale, namely \$4,300, was paid for the thirteen month old Shorthorn bull, "Killearn Norseman," 269672, by Messrs. Cross Bros., Nanton. Ten of the bulls and three of the heifers were purchased by Alberta Shorthorn breeders. Other offerings were purchased by buyers from neighbouring provinces and United States points.

The second largest number of bulls were sold at the Calgary Bull Sale for the greatest total sum. The new high for sale by auction was established when the rising two year old Hereford bull, "Bocaldo 113th," 159321, bred by H. A. Onstad, Airdrie, was purchased at \$8,000 by Irving E. Kesterson, Redwood City, California. The reserve champion, "Caerleon Standard 7th,"

156825, bred by W. A. Crawford-Frost, Nanton, was purchased at \$6,600 by P. Burns Ranches. The champion bull, "Perfection Domino LRD 100th," 155458, bred by W. J. Edgar, Innisfail, was purchased at \$3,750 by I. E. Kesterson, Redwood City, California. At the annual Fall Live Stock Sale held in Calgary, W. A. Crawford-Frost, Nanton, Alberta, obtained the record average price of \$846.50 on a sale of 12 yearling Hereford heifers, the top price being \$1,300.

The highlight in the dairy field occurred on March 24th at the Holstein Day held on the farm of Hays Limited, Calgary, to see the last milking of the cow "Alcartra Gerben," 420868 (VG), finishing her four times a day milking, creating a new world record of 1,409 pounds of butterfat from 27,745 pounds of milk, average test 5.08%. A new feature of this Holstein Day was that in addition to the Alcartra Gerben record, Hays Limited own and had under the same roof a world's record milk and butterfat producer on twice a day milking in the cow "Doncrest Peg Top Burke," with 31,935 pounds of milk and 1,108 pounds of butterfat, average test 3.47%.

There continues to be a keen demand at exceptionally high prices for all classes of breeding stock at dispersal or reduction sales by prominent breeders. Hereford cattle continue to keep in the higher price brackets which may be due, in a large measure, to the predominantly high prices obtained at Calgary sales. The quality of top animals offered for sale continues to improve. However, too many unfitted, low quality bulls are offered at a number of the Bull Sales.

Much time is occupied by a number of staff members in work pertaining to the several Live Stock Improvement Policies attending Agricultural Field Days, Short Courses, conventions, and judging at fairs. There is an increasing amount of this work, more particularly at Junior Live Stock Club Fairs and contests.

June survey of the number of cattle on Alberta farms for the past five years is as follows:

Year	No. of Head
1941	1,344,950
1942	1,469,000
1943	1,627,000
1944	1,742,000
1945	1,860,200

The official reports of the Dominion Department of Agriculture show for Alberta the following cattle and calf marketings and total values for 1941 to 1945 (inclusive):

Year	No. Cattle	Value	No. Calves	Value
1941	292,083	\$17,247,501.00	95,286	\$1,962,892.00
1942	281,278	21,174,608.00	92,579	2,505,188.00
1943	296,251	25,729,399.00	74,502	2,191,848.00
1944	384,257	32,715,600.00	87,888	2,319,400.00
1945	534,815	46,197,320.00	118,923	3,197,839.00

The above tables give a comparative picture of Alberta cattle and calves production, and show the annual revenue therefrom.

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1941	1942	1943	1944	1945
British Columbia	62,797	69,901	69,513	76,202	82,308
Saskatchewan	5,807	5,493	7,772	8,820	13,310
Manitoba	19,042	21,537	22,134	32,626	41,693
Ontario	10,671	12,797	13,999	25,324	18,411
Quebec	11,341	19,421	26,154	36,312	33,802
Nova Scotia				54	366
New Brunswick					151
U.S.A.	76,534	51,303	254	139	400
N.W.T.		40			
	<u>186,192</u>	<u>180,492</u>	<u>136,226</u>	<u>179,477</u>	<u>190,441</u>

Exports to the United Kingdom.

Contracts with the United Kingdom are still requiring every available pound of Canadian beef, including large amounts in boneless form. Despite the increase in beef production, it has been necessary for the Dominion Government to continue meat rationing in order that contracts overseas can be filled.

AUCTION SALES OF PURE-BRED CATTLE

CALGARY BULL SALE:

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	168	\$324.94	203	\$238.33	129	\$367.52
Angus	78	310.00	111	262.48	118	285.80
Hereford	379	475.00	529	412.90	552	513.96
Total all Breeds	625	\$414.49	843	\$351.06	799	\$456.63

EDMONTON BULL SALE:

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	80	\$223.50	106	\$180.80	96	\$225.26
Angus	5	248.00	14	225.71	28	180.71
Hereford	4	361.50	21	269.76	28	292.14
Total all Breeds	89	\$231.08	141	\$198.51	152	\$229.38

LACOMBE BULL SALE:

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	35	\$226.86	49	\$181.43	43	\$235.00
Angus	20	248.00	42	176.25	44	224.00
Hereford	50	274.70	99	181.67	61	277.00
Total all Breeds	105	\$253.66	190	\$180.41	148	\$249.04

LLOYDMINSTER BULL SALE:

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	37	\$147.69	35	\$168.14	39	\$209.00
Angus	1	145.00	6	161.67		
Hereford	25	287.20	19	301.32	32	394.00
Total all Breeds	63	\$205.54	60	\$209.36	71	\$292.38

Due to the keen demand for bulls of the beef breeds in conjunction with a larger percentage of better quality bulls being offered, there was a marked increase in the average price paid for bulls.

The Cattle Improvement Policy (Pure-bred Sires),

Under this policy, which came into operation in November, bona fide Alberta farmers who had not previously obtained assistance in purchasing a bull under the previous Bull Exchange and Assistance Policies, and who are not breeders of pure-bred cattle, are being assisted by a contribution from the Department of Agriculture equal to 25% of the applicant's purchase price of a bull, plus the railroad transportation charges thereon to the applicant's nearest railway shipping point. Moreover, it is no longer necessary for the applicant to produce a certification showing that he has sold a grade or inferior type bull for slaughter purposes.

Marketings of cattle indicate that too small a percentage of all cattle marketed appear in the choice or good classifications. The additional assistance now being provided should tend to more rapidly improve the quality of cattle marketed. Should more concentration of placement of bulls occur in a given locality, more rapid improvement would be evidenced. During the fiscal year 1944-45, 50% of the bulls were placed with applicants residing north

of the North Saskatchewan River, an area containing less than 20% of the Alberta cattle population.

Following the announcement of this new policy, there has been a large increase in applications for yearling bulls, and more particularly for better quality bull calves at higher prices.

During the year, bulls were purchased from 107 different breeders at their farms, and over 50 bulls were purchased at Association sales. In 1944, 152 applications for bulls were completed. In 1945, 316 bulls were placed under The Bull Exchange and Assistance Policy and the Cattle Improvement Policy (Pure-bred Sires). In addition, 37 bulls and 35 females were placed under the Live Stock Listing Bureau.

Dairy Heifer Calf Club Policy.

Members of seven Dairy Calf Clubs received a total of 117 grade Holstein heifer calves. Dairymen in the Edmonton milk-shed are now taking considerable interest in this activity, and their co-operation in advising when calves are available is highly appreciated. This policy is providing for the distribution of good quality, young, dairy females, sired by high quality, registered Holstein bulls and from good producing cows. At Achievement Day fairs where these calves are shown by the club members most credible entries are received, indicating the interest being taken in this phase of improvement of dairy cattle.

SWINE

The swine industry in Alberta has suffered a sharp reduction in the number of hogs marketed. There were several contributing factors which may be listed in this order:

1. Price of market hogs in relation to grain prices.
2. "Draw-back" bonus on grain to feed lot operators.
3. Shortage of suitable feed.
4. Lack of suitable labour.

While Alberta is still leading other provinces in swine production, her production in 1945 was decreased by 35% from that of 1944. Present indications are that the supply of market hogs is likely to remain at the present level for some time. Demand for good breeding stock is quite keen at present.

Alberta swine marketings in 1945 was 1,946,159 as compared to 2,951,940 in 1944. The percentage of "A" grading hogs was 27.2%. The percentage of "C" grading hogs was 7.1%. Neglect and poor feeding during the first four months is mainly responsible for this condition.

The price of market hogs remained comparatively steady at \$16.35 for "A's" and \$15.95 for "B's"—rail graded basis at local plants. The Dominion Government bonus of \$3.00 and \$2.00 respectively on the two top grades continues.

Advanced Registry in swine is gradually gaining recognition, not only amongst pure-bred breeders, but also amongst the commercial hog producers who, in the majority of cases, request a boar of Advanced Registry breeding when making application under the Swine Improvement Policy. Advanced Registry testing of swine is worthy of more encouragement. In herds designated as "A.R." consideration should be given to more supervision from the standpoint of housing, sanitation, and disease control. The Provincial Depart-

ment of Agriculture pays all transportation costs on litters of pigs shipped by breeders to the Advanced Registry Station at Edmonton. In 1944-45 (April 1st to March 31st) there was a total of 121 litters tested.

Inability to adequately supply British bacon requirements brings producers earlier than anticipated into direct Danish competition. Uniformity in type and quality of breeding stock, the use of properly balanced feeds, and the marketing of hogs within certain definite weights, plus continuity of supplies, is necessary. To accomplish this, greater practical efforts are required in the fields of nutrition, breeding, and swine diseases.

The production of market hogs in Alberta has increased progressively, reaching the peak in 1944. The following table shows annual marketings, number and percentage within each grade, and total annual value.

The pure-bred swine breeders have enjoyed a fairly profitable year. The Spring Sale at Edmonton of bred gilts established an all time high of \$225.00 for the first prize gilt. The average at this sale for 40 gilts was \$81.31. Considering the decrease in swine production, Calgary and Edmonton Fall Sale price averages were very good, as is shown in the following table:

EDMONTON FALL SWINE SALE

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Yorkshire Sows	72	\$ 36.97	63	\$ 39.92	97	\$ 54.20
Tamworth Sows	3	40.00	7	27.85		
Yorkshire Boars	77	40.20	56	34.24	83	47.50
Tamworth Boars	3	49.17			8	40.62
	<u>155</u>	<u>\$ 38.87</u>	<u>126</u>	<u>\$ 34.00</u>	<u>188</u>	<u>\$ 40.70</u>

CALGARY FALL SWINE SALE

Yorkshire Sows	188	\$ 45.47	103	\$ 44.56	114	\$ 44.00
Tamworth Sows	8	51.44	11	50.68	35	38.37
Berkshire Sows					2	33.00
Yorkshire Boars	171	48.52	85	44.88	94	47.44
Tamworth Boars	30	45.33	24	32.06	29	51.28
Berkshire Boars	2	51.25	3	42.50	6	40.83
	<u>399</u>	<u>\$ 46.92</u>	<u>226</u>	<u>\$ 42.94</u>	<u>280</u>	<u>\$ 45.06</u>

Average prices for all sows and boars sold at Fall Sales:

Year	SOWS		BOARS		TOTAL	
	No. Head	Av. Price	No. Head	Av. Price	No. Head	Av. Price
1940	159	\$ 24.75	231	\$ 23.12	390	\$ 23.78
1941	177	34.45	217	37.52	394	36.90
1942	218	43.35	239	42.73	457	43.03
1943	271	43.33	283	45.94	554	44.67
1944	184	40.75	168	38.42	352	38.47
1945	248	47.14	220	42.99	463	45.65

The Swine Improvement Policy.

The Swine Improvement Policy was inaugurated in 1938, the main purpose being to provide commercial breeders with good quality pure-bred sires at reasonable prices. The Department prepays transportation charges to the applicant's nearest railway shipping point. Only one boar within each two year period may be obtained under this policy.

In addition, the Department operates a Live Stock Listing Bureau for placement of pure-bred gilts and boars to all applicants who are not eligible to apply under the Swine Improvement Policy.

The following table shows swine placements from 1941 to 1945:

Year	BOARS		Live Stock Listing Bureau	Total
	Policy			
1941	207			207
1942	251	10		261
1943	362	50		412
1944	180	15		195
1945	187	15		202

Year	GILTS		Live Stock Listing Bureau	Total
	Policy			
1942			24	24
1943			31	31
1944			9	9
1945			26	26

Dominion-Provincial Sow Distribution Policy.

No swine improvement groups were formed, although a number of individual gilts were placed. Transportation costs of shipments of gilts under this policy are shared equally by the Dominion and Provincial Departments of Agriculture.

SHEEP

Sheep production in Alberta during the war period remained more stable than the production of any other class of farm live stock. For example, in 1939 we marketed 223,791 sheep and lambs and 303,124 in 1944—an increase of 79,333 head. The quality, too, is much better than for other classes of our farm animals. In 1939, 84.7% of the lambs marketed graded as "Good Handyweight." In 1944, 78.5% of the lambs marketed were within this grade, or only 6.2% below that of 1939.

A Canadian Wool Board report indicates that western wool growers received 28c per pound for wool, f.o.b. at Ontario mills. The future and popularity of Alberta wool with the Canadian woollen manufacturers will depend on the uniformity of quality and the manner in which individual wool growers prepare their clips for market. To encourage sheepmen in this work, the Dominion-Provincial wool bonusing plan was inaugurated in 1943. The payment of a bonus at 4c per pound on qualifying clips is shared equally by the two Governments.

TOTAL WOOL CLIPS, 1943-1945			
	1943	1944	1945
Total number all Clips Marketed	5,435	5,238	5,044
Total weight all Clips Marketed	3,478,132	3,751,401	3,552,947
WOOL CLIPS RECOMMENDED FOR BONUS			
	1943	1944	1945
Total number Clips	4,640	3,863	3,978
Total weight	3,247,438	3,023,807	3,062,814
Total poundage for bonus	3,124,503	2,922,839	2,950,123
Total pounds wool rejected	122,935	100,968	112,691
% rejects in recommended wool	3.78%	3.33%	3.67%
Amount bonus paid	\$124,980.12	\$116,913.56	\$118,004.92
WOOL CLIPS NOT RECOMMENDED FOR BONUS			
	1943	1944	1945
Number of Clips	795	1,375	1,066
Total weight	230,694	727,594	490,133
% Clips not qualifying	14.6%	26.2%	26.79%
% total wool marketed not qualifying	10.2%	22.1%	16.0%

The Alberta mutton and lamb prices have been quite good. The 1944 average price per cwt. for good handyweight lambs was \$11.30 at Calgary and \$10.60 at Edmonton yards. The average price per cwt. in 1945 for good handyweight lambs was \$12.41 at Calgary and \$11.83 at Edmonton yards—a marked increase over last year.

The removal of the embargo late in 1944 on sheep and lambs going to the United States materially reduced pressure on home markets. Over 25,000 head or 8.5% of total sales of Alberta's sheep and lambs were shipped south of the boundary. Alberta's shipments to the United States were 56,562 head. The Meat Board booked nearly 2,000,000 lamb carcasses weighing from 30 to 55 pounds for export to the United Kingdom, and in addition over 800,000 pounds of mutton. It is reasonable to expect that a fair percentage of these products will be from Alberta.

Alberta's pure-bred sheep industry is making good progress. The entries of a number of breeders consistently take top honours at our shows and sales. This is accomplished by careful selection of blood lines, type, and conformation, and good feeding.

Buyers from the United States purchased at the Calgary Fall Sale a total of 98 Hampshire and 100 Suffolk rams. Price averages were \$19.61 for Hampshire ram lambs and \$24.54 for Suffolk ram lambs. At the Edmonton Sale, only Suffolk ram lambs were purchased on behalf of American buyers. The average price paid was \$19.74.

American buyers want rams which are well grown out, not overly fitted, but in good breeding condition, possessing strength of constitution and bone, strong loin, and thick quarters of good length and depth, which also coincides with Canadian requirements.

The only consignment of Alberta rams to the thirtieth Annual Salt Lake Ram Sale was made by the Clarindale Stock Farm, Vauxhall. The second highest priced ram lamb at this sale was from this consignment, selling at \$360.00. It is gratifying to note that this farm had champion Suffolk rams at the last two Calgary Fall Sales. The 1944 champion ram lamb "Clarinda 29Y," 61953, sold for \$1,000.00 to H. R. McConachie of Justholme Ranch, Cochrane. The 1945 champion ram lamb, "Clarindale 5Z," 67596, was purchased at \$290.00 by R. H. Burns, Sheridan, Wyoming, U.S.A. An A.C.B. Grenville Suffolk ram lamb sold for \$300.00—the highest price at the Calgary Sale—to E. P. Ranch, High River.

AUCTION SALES OF PURE-BRED SHEEP

EDMONTON:

Breed	1943		1944		1945	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Suffolk Ewes	10	\$ 21.90	12	\$ 27.00	63	\$ 16.98
Oxford Ewes	28	11.18	17	11.88	8	11.87
Shropshire Ewes	5	11.40	16	11.13	11	10.25
Southdown Ewes	12	10.92			3	12.00
Hampshire Ewes	20	13.35	9	16.82	31	14.09
Total	24	\$ 15.06	75	\$ 14.49	116	\$ 14.82
Suffolk Rams	49	\$ 43.38	111	\$ 25.18	108	\$ 29.03
Oxford Rams	46	25.18	26	19.52	15	21.30
Shropshire Rams	9	15.11	16	23.28	15	18.10
Southdown Rams	11	18.17	4	25.00	7	29.07
Hampshire Rams	75	34.26	85	24.71	90	23.12
Total	190	\$ 32.57	242	\$ 23.53	235	\$ 25.57
Grade Ewes	70	\$ 10.79	5	\$ 10.00	25	\$ 7.40

CALGARY:

Suffolk Ewes	141	\$ 25.11	166	\$ 19.25	163	\$ 31.04
Shropshire Ewes	25	14.56	3	12.00		
Southdown Ewes	34	18.59	33	14.52	11	14.66
Hampshire Ewes	153	17.57	130	14.10	181	14.15
Total	353	\$ 20.47	362	\$ 14.96	355	\$ 21.91
Suffolk Rams	197	\$ 40.99	168	\$ 47.46	200	\$ 43.07
Shropshire Rams	12	29.00	7	19.43		
Southdown Rams	30	19.15	31	17.92	27	23.11
Hampshire Rams	173	39.80	195	38.76	206	27.80
Rambouillet Rams	6	45.83	6	52.50	10	24.60
Cheviot Rams					5	51.00
Cotswold			2	15.50		
Corriedale Rams	13	37.85	1	21.00	9	34.11
Lincoln			9	20.88		
Total	431	\$ 38.63	419	\$ 29.18	457	\$ 34.61

LETHBRIDGE:

Rambouillet Rams	50	\$ 23.79	46	\$ 17.43	42	\$ 21.13
N.Z. Corriedales	8	42.81	4	29.50	6	29.50
Can. Corriedales	45	37.64	29	21.21	30	26.15
Mature Rams	6	35.08	3	25.67	5	37.20
Total	109	\$ 31.53	82	\$ 19.96	83	\$ 25.04

Summary of the average prices received in the past five years at all Fall Sales in Alberta is as follows:

Year	EWES		RAMS		TOTAL	
	No. Head	Av. Price	No. Head	Av. Price	No. Head	Av. Price
1940	172	\$ 15.57	389	\$ 22.23	561	\$ 20.19
1941	189	18.13	569	29.83	758	26.91
1942	150	25.45	592	38.20	742	35.63
1943	428	19.42	730	36.00	1,158	29.87
1944	421	15.34	743	27.11	1,164	20.96
1945	471	20.17	692	31.54	1,163	26.93

The marketings of commercial sheep and lambs in Alberta for the years 1937 to 1945 (inclusive) are given hereunder:

COMMERCIAL MARKETINGS OF SHEEP AND LAMBS IN ALBERTA

Year	Stock Yards	Plants	Direct on Export	Total	Value
1937	62,324	157,189	46	219,559	\$1,185,619.00
1938	48,451	151,029	125	199,605	1,097,828.00
1939	68,653	154,801	337	223,791	1,353,936.00
1940	61,977	130,672	32	192,681	1,319,865.00
1941	74,290	138,738	804	213,032	1,657,198.00
1942	42,573	162,899	1,563	207,035	1,830,189.00
1943	57,386	152,626	642	210,654	1,805,304.00
1944	72,239	205,739	25,146	303,124	2,515,900.00
1945	75,556	196,836	56,562	328,954	2,921,112.00

ALBERTA SHEEP MARKETINGS AND CLASSIFICATIONS

LAMBS						SHEEP						Grand
	Good Handy Weight	Good Heavy	Common all Weight	Bucks	Total	Good Handy Weight	Good Heavy	Common	Unclassi- fied	Direct on Export	Total	Grand Total Sheep and Lambs
1939—Number	168,935	6,615	23,013	1,025	199,588	1,828	12,539	4,284	5,215	337	24,203	223,791
1939—%	84.7	3.3	11.5	.5		7.6	51.8	17.7	21.6	1.3		
1940—Number	144,108	4,698	19,842	1,200	169,848	2,461	12,176	3,444	4,720	32	22,833	192,681
1940—%	85.0	2.7	11.6	.7		10.7	53.1	15.6	20.5	.1		
1941—Number	151,953	4,500	29,679	1,367	187,500	3,339	14,554	4,575	3,061	804	26,333	213,833
1941—%	81.1	2.4	15.8	.7		12.7	55.3	17.4	11.6	3.0		
1942—Number	159,838	5,680	24,395	1,369	191,282	1,987	5,763	3,217	3,232	1,563	15,753	207,035
1942—%	83.6	2.9	12.8	.7		12.6	36.5	20.5	20.5	9.9		
1943—Number	154,088	6,505	22,033	1,536	184,162	3,622	15,273	4,832	2,123	642	26,492	210,654
1943—%	83.7	3.5	12.0	.8		13.7	57.5	18.4	8.0	2.4		
1944—Number	193,452	6,495	45,232	1,543	246,722	12,737	7,212	6,780	4,527	25,146	56,402	303,124
1944—%	78.5	2.6	18.3	.6		22.6	12.8	12.0	8.0	44.6		
1945—Number	188,162	3,651	39,076	2,380	233,269	10,466	15,132	10,029	3,496	56,562	95,685	328,954
1945—%	80.6	1.6	16.8	1.0		10.9	15.8	10.5	3.7	59.1		

The Sheep Improvement Policy.

Under this policy a commercial sheep breeder is eligible for free freight or express shipping charges on two rams in one year, at intervals of every two years, but not on one ram in two consecutive years. It is regrettable that more of the small flock owners do not take advantage of this policy. Those who are not eligible to make application for rams under the policy and those who place orders for breeding ewes are given services under the Live Stock Listing Bureau.

The following table shows sheep placement for the years 1941 to 1945:

Year	Rams	Ewes	L L.B.	Rams
1941	69			
1942	81	11		14
1943	26	4		9
1944	31	11		3
1945	25	4		

HORSES

Seven spring auction sales of horses were held at the following points: Brooks, Calgary, Edmonton, Lacombe, Lethbridge, Red Deer, and Stettler. A total of 4,153 horses were sold, realizing \$257,468.50—an average of \$62.00 per head. This was the largest number of horses ever sold at the Spring Sales. A total of 1,125 more horses were sold than in the preceding year. However, the average price was \$7.28 less per head. A contributing factor to the decrease in average price was that too many unfitted horses of types not in demand by Eastern buyers were offered for sale, which adversely affects prices on better quality horses.

According to the June survey, the horse population was 564,200 head, which indicates a decrease of 6.5%, or 39,300 horses under 1944 survey numbers. There has been a marked decrease in the number of foals, and very little demand for stallions.

A fair demand developed early in the fall for heavy horses for bush work. A few choice Clydesdales, suitable for show purposes, have been shipped to Eastern provinces and United States points. Many horsemen were keenly disappointed that only 35 horses were purchased in Alberta for export to the Netherlands.

Export of horses for the period 1942-45 is as follows:

	1942	1943	1944	1945
British Columbia	1,365	2,295	1,377	1,023
Saskatchewan	255	443	511	131
Manitoba	279	1,624	790	502
Ontario	645	1,409	1,416	1,132
Quebec	5,739	6,412	7,667	4,523
Nova Scotia	769	1,187	1,607	1,225
New Brunswick	693	718	550	564
U S.A.	242	6,686	9,859	6,733
Newfoundland		80	123	113
Netherlands				35
	<u>9,987</u>	<u>20,845</u>	<u>23,900</u>	<u>15,981</u>

LIVE STOCK FEEDERS' ASSOCIATIONS

Only 257 members of 15 Feeders' Associations obtained loans to purchase feeder live stock under provisions of The Feeder Associations Guarantee Act. This is a marked decrease in the number obtaining a loan and total amount of loans.

The financial status of many members no longer necessitates loans for the purchase of feeder live stock. This is largely attributed to benefits derived under this policy in preceding years, when

many feeders developed to the extent that loans are not required, or their requirements now exceed the maximum loan of \$4,000 a year. Satisfactory "margins" and substantial profits were realized by cattle and lamb feeders.

VOLUME OF OPERATIONS OF ALBERTA FEEDERS' ASSOCIATIONS DURING THE FEEDING SEASON OF 1944-1945

Association and Address	Cost of Animals	Cattle	Sheep	Total Membership	No. Members Feeding
Battle River Live Stock Feed- ers' Ass'n, Camrose	\$ 43,579.96	687	136	42	23
Bow Valley Live Stock Feed- ers' Ass'n, Brooks	144,219.16	587	6,543	122	20
Cardston Live Stock Feeders' Ass'n, Cardston	74,954.84	1,123	2,801	32	27
Carstairs Live Stock Feeders' Ass'n, Carstairs	9,491.72	147		27	7
Central Alta. Live Stock Feed- ers' Ass'n, Lacombe	52,690.40	693	1,092	69	19
Lethbridge Feeders' Associa- tion, Lethbridge	98,281.90	886	7,755	79	20
Olds Live Stock Feeders' Ass'n, Olds	60,441.55	862	948	46	21
Raymond-Magrath Live Stock Feeders' Ass'n, Magrath	58,564.43	373	6,147	82	16
Red Label Live Stock Feeders' Ass'n, Raymond	44,892.64	598	2,311	50	11
South Slope Feeders' Associa- tion, Brooks	62,327.44	195	3,785	58	28
Taber Live Stock Feeders' Ass'n, Taber	33,791.30	334	1,966	72	9
U.I.D. Stock Feeders' Associa- tion, Glenwood	36,532.72	50	6,041	68	14
Vauxhall-Albion Ridge Feed- ers' Ass'n, Vauxhall	59,754.54	329	7,012	89	14
Vermilion and District Feed- ers' Ass'n, Vermilion	43,228.04	894		161	20
Wainwright-Edgerton-Chauvin Feeders' Ass'n, Edgerton	11,707.07	210		131	8
	<u>\$ 834,457.71</u>	<u>7,968</u>	<u>46,537</u>	<u>1,128</u>	<u>257</u>

THE STOCK INSPECTION ACT AND THE BRAND ACT

The movement of cattle through various marketing channels broke all previous records, and resulted in much additional work for the stock inspection staff, who received good co-operation from all those engaged in the business.

Owing to the higher prevailing values of live stock, increased interest of owners in renewal of brands and obtaining brands was evidenced.

During the year there were 2,404 new brands recorded to their respective owners, consisting of 2,074 cattle, 319 horse, 3 sheep, 6 poultry, and 2 fox brands; 246 transfers were registered; cancellations, 154; renewals, 3,319 (2,305 cattle, 990 horse, 5 sheep, 1 poultry, and 18 fox); strays, searches and certified extracts numbered 512; butchers' and hide dealers' licenses issued, 550; making a total of 7,185 transactions.

Compared with the year 1944, these figures show an increase of 97 cattle and 2 poultry brands, and a decrease of 121 horse, 7 sheep, and 1 fox brand.

The approximate number of brands now in good standing are as follows:

Cattle	20,799
Horse	9,116
Poultry	33
Sheep	35
Fox	67
	<u>30,050</u>

THE DOMESTIC ANIMALS (UNORGANIZED TERRITORY) ACT

Periods in which live stock feeds are in short supply always increase the interest of farmers in utilizing provisions of this Act. Necessarily work is continued throughout the year in establishing and maintaining pound districts, adding thereto or making changes regarding the time and class of animals prohibited from running at large; also the disposing of stray animals.

RESTRICTED AREA PLAN

The scarcity of veterinarians for testing cattle for tuberculosis in restricted areas has delayed progress in this work. However, much interest is being shown by cattle owners in various districts in requesting the formation of additional areas under this plan.

The testing of cattle has been completed in the following enlarged municipal districts: Starland No. 47, Stettler No. 54, Lamont No. 82, Strathcona No. 83; and the testing of cattle in only three townships remains to be completed in the enlarged municipal district of Camrose No. 63. That portion of Improvement District No. 276 north of the Red Deer River is also under the Restricted Area Plan.

REPORT OF SUPERVISOR OF LIVE STOCK BREEDING ASSOCIATIONS

(W. H. T. MEAD)

Artificial insemination work carried on at the Live Stock Breeding Laboratory at the Olds School of Agriculture during 1945 was more or less a continuation of the work done in 1944. No new breeding clubs were organized, although surveys were conducted in the districts adjacent to Red Deer, Delburne and Glenwoodville, and in each case the number of cows available was not sufficient to justify the organization of a club under existing regulations.

Service was continued with the members of the Alberta Branch of the Holstein-Friesian Association, but no other Provincial Breed Association indicated any desire to come under this policy.

Membership in the Olds Breeding Club increased from 171 at the end of 1944 to 224 at the end of 1945. However, a number of these members were not active, and some members who were active in 1944 were not active in 1945. A total of 120 members were active both years.

A total of 911 cows were inseminated in this club in 1944, and in 1945 this number was increased to 975. This is approximately 250 cows per year short of the original objective. Two Holstein bulls and two Shorthorn bulls were used to serve this club. A third Shorthorn bull was purchased in August, 1945, because one of the other bulls was not performing satisfactorily.

Service to breeders of registered Holstein cattle was continued from the bulls, "Hays Thirty-nine Steps" and "Glenafton Rag Apple Architect." Service was given to at least one cow in each of 43 herds at 21 different points in the Province. A total of 108 cows were bred to these two bulls in 1944 and 247 were bred in 1945. Breeders generally expressed satisfaction with the service, but as in 1944, more difficulty was experienced in some herds than in others.

Some of the calves from these two bulls were sold at different public sales during 1945, and were generally well received. One heifer calf bred at Edmonton, a daughter of "Hays Thirty-Nine Steps," sold at the All-Canadian sale for \$650.00 at the age of one and one-half months.

The extent to which artificial breeding service can be provided to farmers will depend a great deal on the value the individual farmer places on the service. Costs are fairly high, and there is not much indication that it can be reduced to any considerable extent. The practice is technically possible, but in order to obtain satisfactory results it may be necessary for certain farmers to make changes in their management practices. In a number of cases it has been found that farmers are not willing to do this, and it has been impossible to obtain satisfactory results in those herds.

The work done so far in this Province would indicate that any extension of service does not depend entirely on costs, but also depends on the genuine desire of cattle breeders to raise the quality in their herds, even at the cost of rearranging their management practices to fit into such a breeding programme.

REPORT OF THE DAIRY COMMISSIONER

(D. H. McCALLUM)

GENERAL REVIEW

Alberta's dairy production during 1945 shows a slight decrease in volume from the all-time record established in 1944; but is still far above that of pre-war years. A total of 1,727,277,600 lbs. of milk were produced during the year which represents a decrease of 4.4% under 1944. This decrease was due to a number of factors which are listed in order of importance: (1) Unfavourable weather conditions over large areas of the Province, a very dry cold spring retarded pastures and milk flow in the northern section, an early winter particularly in the southern and central sections eliminated much of the fall pasture and left producers in these areas short of winter feed; (2) labour shortages on farms resulted in fewer cows being milked and greater interest in grain growing; (3) prices for milk and butterfat used for manufacturing purposes were less attractive than prices of some other farm products, particularly grain.

Larger quantities of milk were used in the manufacture of cheddar cheese and evaporated milk, and slightly larger quantities were consumed in rural centres and fed to live stock. Less milk was consumed in urban centres and used in the manufacture of creamery butter, dairy butter, farm cheese and ice cream, which represent the major portion of the total milk supply.

Prices for all products remained approximately the same as 1944, but the total value decreased by \$1,357,773 to \$34,054,047 due to the decreased production. Federal Government subsidies were again paid to producers throughout the year. These amounted to \$3,695,124 and are not included in the total value of the finished product. The value of milk and cream sold off farms amounted to \$21,247,298, a decrease of \$1,603,345 from the 1944 total.

Creamery butter production amounted to 34,650,000 lbs., a decrease of 8.4% from 1944. Factory cheese production amounted to 3,970,000 lbs. This represents an increase of 6.9%, and establishes a new all-time record for cheese production in the Province.

Subsidies Paid for Milk and Butterfat During 1945.

Butterfat used in the manufacture of creamery butter received a subsidy of 10c per lb. throughout the year.

Milk for the manufacture of cheddar cheese received a subsidy of 20c per 100 lbs. for the whole year.

Milk used for concentrating purposes was subsidized 15c per 100 lbs from May to September (inclusive), and 30c per 100 lbs. during the other months of the year.

Milk for fluid consumption received a subsidy of 35c per 100 lbs., in areas approved by the Provincial Milk Control authorities, for the period May to September (inclusive) and 55c for the remaining months. These areas supplied milk to the principal cities. Other areas, as approved by the same authorities, received a subsidy of 25c per 100 lbs. throughout the year.

The following table sets forth the estimated amounts paid as a result of these various subsidies:

Butterfat for the manufacture of creamery butter	\$2,897,297
Milk for the manufacture of cheddar cheese	99,103
Milk for concentrating purposes	61,842
Milk for fluid consumption	636,882

Total subsidy paid to Alberta producers	\$3,695,124
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PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1945

(Preliminary)

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	34,650,000	811,156,500	47.0	\$.325	\$11,261,250
Farm Dairy Butter (lbs.)	9,004,000	210,784,000	12.2	.346	3,115,384
Cheddar Cheese (lbs.)	3,970,000	44,464,000	2.6	.225	893,250
Farm Dairy Cheese (lbs.)	224,500	2,514,400	.1	.205	46,023
Ice Cream† (gals.)	1,042,294	16,374,400	.95	1.22*	1,271,599
Misc. Factory Products		30,014,300	1.7		1,157,916
Milk and Cream Consumed		460,850,000	26.7	2.437	11,231,448
Milk Fed Farm Animals		151,120,000	8.75	1.76	2,659,712
Skimmilk & Buttermilk (lbs.)	966,986,000			.25	2,417,465
Totals		1,727,277,600	100.00		\$34,054,047

†Mix converted to ice cream on basis of 100% overrun.

*Average price of ice cream per gal. at factory.

PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1944

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	37,806,568	885,052,000	49.0	\$.3229	\$12,207,172
Farm Dairy Butter (lbs.)	9,169,000	214,646,000	11.9	.3500	3,209,150
Cheddar Cheese (lbs.)	3,712,936	41,585,000	2.3	.2206	819,106
Farm Dairy Cheese (lbs.)	227,400	2,547,000	.1	.2006	45,616
Ice Cream† (gals.)	1,198,373	18,826,000	1.1	1.1825*	1,420,312
Misc. Factory Products		29,240,000	1.6		1,136,715
Milk and Cream Consumed		463,742,000	25.6	2.4401	11,319,528
Milk Fed Farm Animals		150,815,000	8.4	1.7600	2,654,344
Skimmilk & Buttermilk (lbs.)	1,039,951,000			.2500	2,599,877
Totals		1,806,453,000	100.0		\$35,411,820

†Mix converted to Ice Cream on basis of 90% overrun.

*Average price of Ice Cream per gal. at factory.

ESTIMATED VALUE OF DAIRY PRODUCTS SOLD OFF FARMS, 1945

	Quantity, lbs.	Price	Value
Butterfat for Manufacturing Purposes	29,264,513	\$.435 per lb.	\$12,730,063
Farm Dairy Butter Sold	900,400	.346 per lb.	311,538
Milk for Cheesemaking and Concentrating	71,558,000	1.95 100 lbs.	1,392,715
Milk and Cream Sold for Fluid Consumption	259,500,000	2.625 100 lbs.	6,812,982
Total			\$21,247,298

(Dominion Government Subsidies included only in value of products sold off farms.)

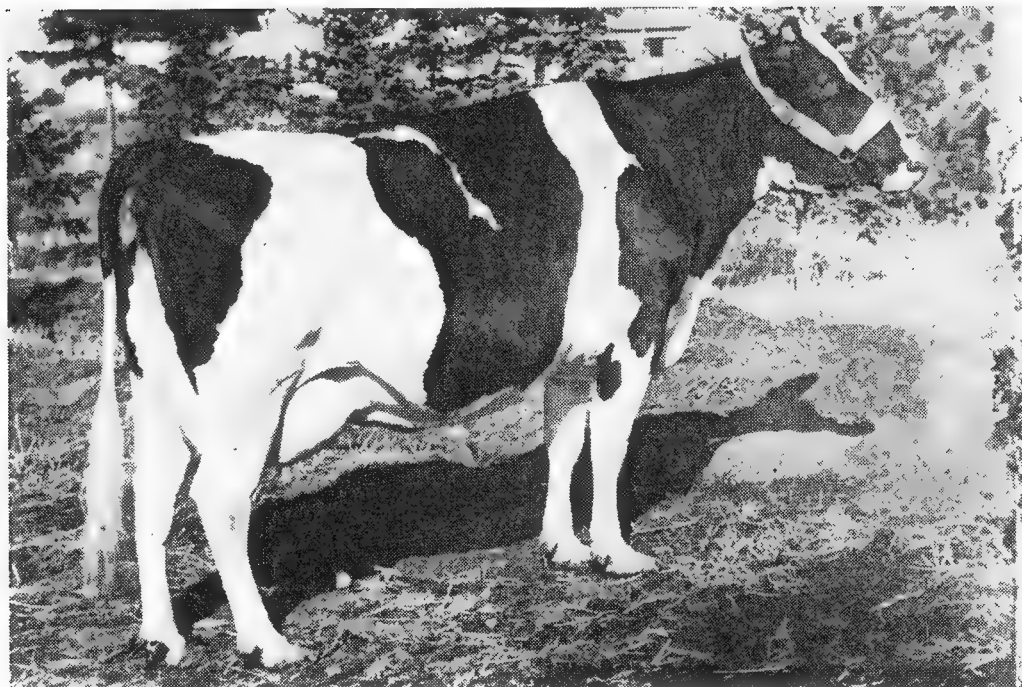
Above prices are at Factory except Dairy Butter, which is consumer price.

DAIRY CATTLE

The June estimate by the Dominion Bureau of Statistics showed 376,400 cows and heifers over two years of age were kept on Alberta farms for milk purposes. This represents a decrease of 9,100 head, or 2.4% below the 1944 totals.

The average production per cow, based upon total milk produced and the number of cows kept for milk purposes, was 4,589 lbs. of milk and 165 lbs. of butterfat assuming an average test of 3.6%. The corresponding figures for 1944 were 4,686 and 168 lbs. respectively.

While the average production of Alberta dairy cows is low, some outstanding records have been made by individual cows. Of special interest was the *World's Record* for butterfat production made by *Alcartra Gerben*, an Alberta Holstein Friesian cow owned by Hays Ltd. of Calgary.



Alcartra Gerben

In a 365-day record completed March 24, 1945, Alcartra Gerben produced 1,409 lbs. of butterfat from 27,745 lbs. of milk testing 5.08%, which has never been equalled by any cow of any age or breed. It would require the production of over eight average Alberta cows to equal that of Alcartra Gerben. On the day this record was completed hundreds of dairymen, not only from Alberta but eastern Canada and United States, gathered to witness the final milking and attend a banquet in the Palliser Hotel, Calgary, given by Hays Ltd. in honour of this great cow. A display, prepared by the Alberta Department of Agriculture, was erected in the hotel lobby. This display illustrated by means of butter cartons, in the form of a pyramid, the production of Alcartra Gerben in comparison to that of the average Canadian cow.

CREAMERIES

There were 91 creameries in operation during 1945. The Central Alberta Dairy Pool at Delburne operated as a combined butter and cheese factory during the later part of the year. This plant had been converted into a cheese factory during 1944.

Five creameries changed ownership during the year, the Swift Canadian branches at Coronation and Hanna being purchased February 1st by the Central and Southern Pools respectively.

The Northern Alberta Dairy Pool purchased from H. B. Hay on June 1st the creameries at Peace River and Grande Prairie.

The newly formed Cardston Co-operative took over the Cardston Creamery on June 1st.

The Evansburg Creamery was destroyed by fire on June 6th. However, a new modern plant was put into operation during October.

The average output per plant amounted to 380,769 lbs., a reduction of 25,753 lbs. from 1944.

CHEESE FACTORIES

Eighteen cheese factories again operated during 1945. The factory at Raymond did not operate, but a new plant was put into operation at Sunnyslope early in July. This factory is a branch of the Linden Co-op. Dairy Association, Ltd.

The average output of cheese per factory was 220,555 lbs., an increase of 14,281 lbs. from 1944 and the highest on record.

Cheese factories again supplied large quantities of milk to the fluid milk distributors in the cities of Edmonton, Calgary, and Lethbridge, which materially lowered cheese production during the closing months of the year.

CREAM QUALITY

The following table sets forth the quantity and quality of cream received at Alberta creameries during the year. Corresponding figures for 1944 and 1941 are included to facilitate comparisons:

	1945		1944		1941	
	Pounds (Estimated)	%	Pounds	%	Pounds	%
Cream Received	83,021,367		90,955,231		87,163,649	
Average Test		(35.2)		(35.4)		(34.6)
Butterfat:						
Table Grade	291,546	(1.0)	340,840	(1.1)	778,288	(2.6)
Special Grade	15,876,942	(54.2)	16,579,038	(51.6)	20,093,810	(66.6)
First Grade	11,667,650	(39.9)	13,557,136	(42.2)	8,369,065	(27.8)
Second Grade	1,352,905	(4.6)	1,605,705	(5.0)	749,951	(2.5)
Off Grade	75,470	(.3)	70,257	(.2)	143,639	(.5)
	29,264,513	\$100.0)	32,152,976	(100.0)	30,134,753	(100.0)

A slight improvement in cream quality occurred during the year. The percentage qualifying for Table and Special Grade increased to 55.2% as compared to 52.6% for the previous year. However, the general quality is far below that of 1941, and every effort must be put forth to improve quality during 1946. Plans are under way to conduct a campaign designed to improve the can situation, and hence the quality of cream.

BUTTER AND CHEESE QUALITY

FEDERAL REPORT OF CREAMERY BUTTER GRADED

Year	Total Pounds Graded	% of make Graded	Percentage in Each Grade			
			First	Second	Third	Below Third
1938	27,839,952	(89.1)	85.7	7.9	5.4	1.0
1939	27,219,976	(91.5)	86.9	7.0	5.4	.7
1940	27,243,216	(91.4)	88.1	7.1	4.4	.4
1941	32,037,992	(90.7)	88.4	6.9	4.1	.6
1942	33,614,392	(90.9)	84.1	10.2	5.0	.7
1943	35,490,784	(91.8)	84.9	9.2	5.5	.4
1944	34,797,504	(92.0)	87.0	7.0	5.7	.3
1945	31,764,234	(91.7)	88.68	5.7	5.35	.27

Butter quality showed a slight improvement during 1945, and it is gratifying to report that this year's percentage of first grade is the highest since butter grading in Alberta became a function of the Federal Government during 1927. There was a reduction of 1% in butter qualifying for 93 points or more, which is top commercial quality.

FEDERAL REPORT OF ALBERTA CHEESE GRADED

Year	Total Pounds Graded	% of make Graded	Percentage in Each Grade			
			First	Second	Third	Below Third
1940	1,935,750	(71.5)	70.6	28.4	.9	.1
1941	2,498,988	(79.6)	78.6	21.0	.2	.2
1942	3,785,718	(96.8)	81.0	18.7	.2	.1
1943	2,353,872	(91.8)	80.7	19.0	.2	.1
1944	3,339,147	(89.9)	79.0	20.4	.4	.2
1945	3,838,750	(96.7)	82.0	17.6	.3	.1

There was a noticeable improvement in cheese quality during the year. An additional 3% qualified for first grade, and the improvement in 93 score was even greater.

SERVICES OF THE DAIRY BRANCH

Inspection and Instructional Work.

Inspectors of the Dairy Branch made 1,430 visits to dairy factories and milk distributing plants during the year. There were 79,142 shipments of cream checked for grade, and 27,665 samples of milk and cream were check-tested for butterfat content. Regulations under The Dairymen's Act respecting grading and testing were rigidly enforced.

A good portion of the inspectors' time was spent instructing factory workers on improved manufacturing methods, with particular reference to quality.

Creamery Short Course.

A four weeks' Short Course for creamery workers commencing February 21st was conducted jointly by the Department of Dairying, University of Alberta, and the Dairy Branch, Department of Agriculture. Those attending the course were paid subsistence allowances and transportation by Canadian Vocational Training. All students, upon completion of the training, found ready employment in dairy factories which were particularly short of trained help.

Diploma Course in Dairying.

Realizing the need for a more complete Short Course in Dairying and one that would lead to a diploma, a course for ex-service personnel commenced at the University of Alberta, November 5, 1945, and will continue until April 30, 1946.

This course is designed to rehabilitate those from the services desiring to follow dairy manufacturing as a vocation. It is offered jointly by the Department of Dairying, University of Alberta, the Dairy Branch, Department of Agriculture, Edmonton, and Canadian Vocational Training.

Students attending this course were limited to 20, and will receive instruction on a variety of subjects including buttermaking, cheesemaking, milk plant practices, ice cream making, grading and testing, dairy bacteriology, dairy chemistry, business management, etc.

While this first diploma course was limited entirely to ex-service personnel, it is anticipated that future courses of similar duration will be offered to any interested person with the necessary qualifications. This type of training should prove of great benefit to the industry by providing trained personnel for all types of dairy manufacturing plants. The fact that a diploma will now be awarded should prove of value to those interested in civil service positions requiring this qualification.



Dairy Extension Work.

Members of the Dairy Branch staff conducted the usual extension work of addressing educational meetings for producers, butter-makers and cheesemakers. Leaflets, circulars, posters, etc., were prepared for distribution, and radio addresses were given on problems affecting dairy production and manufacture.

Cow Testing and Herd Recording.

The cow testing service, designed to assist herd owners in determining the milk and butterfat of their individual cows, was continued throughout the year. The information secured from such records is necessary in a constructive programme for breeding, and feeding dairy cattle, yet it is disappointing to find so few dairymen availing themselves of this service.

The following tabulation sets forth the average production of cows completing lactation periods or an eight months' recording during the year ending October 31st, 1945, and also the extent to which the service was utilized. The corresponding figures for the previous three years are included for sake of comparison:

	1945	1944	1943	1942
Number of herds under test	89	109	128	180
Number of cows under test	1,178	1,389	1,600	2,052
Number of cows completing a lactation or showing an eight months' recording ..	789	933	1,094	1,272
Average production of milk, pounds	8,087	8,045	8,096	7,845
Average production of butterfat, pounds	304.5	303.0	305.4	295.6
Average test	3.76	3.77	3.77	3.77

It will be noted that only about half as many herds were under test during 1945 when compared with 1942. The acute shortage of farm labour together with the absence of a cow testing supervisor during the past three years are undoubtedly responsible for the decrease in members. For Alberta dairymen to compete in post-war markets it will be necessary to lower production costs. This can only be accomplished by raising the average production per cow to a point which will provide the owner of an adequate return above feed and labour costs. This problem offers a real challenge to herd owners, dairy manufacturers and agricultural workers.

The average production of cows under test has been well maintained during the period under review, and a slight increase in both milk and butterfat occurred during 1945. These cows completing a lactation or an eight months' recording averaged 8,087 lbs. of milk and 304.2 lbs. of butterfat as compared to 4,589 and 165 lbs. respectively for all Alberta milk cows, which illustrates thoroughly the value of the service.

Graded certificates were again issued for cows attaining a certain standard of butterfat production. The following table lists the number of certificates issued in each classification during the past four years:

	1945	1944	1943	1942
Gold Seal	54	78	54	52
Red Seal	212	223	278	251
Blue Seal	304	454	428	489
Statements	77	135	200	236
Total	667	890	960	1,028

Owners of herds of five or more cows averaging over 300 lbs. of butterfat are listed herewith:

HONOUR ROLL, 1945

Name	Address	No. of Cows	Ave. lbs Butterfat
Alexander, W. W.	Picture Butte	8	386.4
Allan, James	Hughenden	13	323.9
Anderson, C. K.	Camrose	14	310.6
Bacon, G. Ross	North Edmonton	12	330.3
Bailey, Ward L.	Wetaskiwin	8	470.5
Bajema, A. J.	Blackfalds	5	363.2
Bajema, J. A.	Blackfalds	8	305.6
Bakker, P.	Stony Plain	19	370.7
Black, Wm.	Camrose	7	415.0
Clarke, E. S.	Didsbury	9	301.7
Christensen, C. E.	Edmonton	19	312.4
Culshaw, Ralph	Sedgewick	9	316.3
Dowdell, A. E.	Millet	10	400.6
Erickson, John	Bentley	11	431.6
Flach, C. J.	Opal	10	331.6
Gunton, A. E.	Mayerthorpe	7	312.8
Gould, S. P.	Rosalind	11	363.0
Haines, John	Millet	5	366.0
Hoeve, Jack	Lacombe	10	327.4
Hudd, W. A. and C. J.	Lacombe	12	326.5
Irwin, R. S.	Brant	11	338.0
Jensen, C. T.	Lacombe	15	310.0
Jean, Hector	Lafond	5	354.8
Jones, D. C.	Leduc	13	438.5
Kaufman Bros.	Tofield	9	400.8
Leeson, F. W.	Didsbury	10	300.2
Magnesson, Edwin	Ryley	16	307.7
McGhan, Lloyd	R.R. 7, Edmonton	12	320.5
Nicholson, Hal	Manola	5	331.7
Nelson, Martin	Millet	18	382.5
Stannard, G. A.	South Edmonton	27	371.9
Stannard Bros.	South Edmonton	34	383.9
Stevens, J. R.	Didsbury	17	395.8
Stelfox, A. E.	Daysland	6	356.0
Thesberg, Niels	Markerville	8	334.2
Wilkinson, C. H.	Clover Bar	16	307.3
Webb, Claude	Swalwell	17	367.8

Dairy Branch Laboratory.

A record total of 4,461 samples, chiefly dairy products and water, were analyzed by the Dairy Branch Laboratory during the year. The change of policy in April, 1944, which provided a free mould and yeast analyses for butter samples from all creameries, was largely responsible for the increase of 513 samples from the previous year's total.

The following table shows the distribution of samples analyzed:

Butter Samples for mould and yeast	4,066
Water Samples	41
Creamery Surveys	17
Milk and Cream Samples	10
Butter Samples for pH	229
Miscellaneous	98
Total	4,461

The mould and yeast count on creamery butter is considered a good indication of creamery sanitation. To illustrate the improvement made by Alberta creameries, since the inauguration of the service in 1925, the following tabulation is included:

Year	No. of Analyses	Average Moulds	Average Yeasts	Average Total
1925	686	28	8.327	8.355
1930	2,799	25	619	644
1935	2,177	4.6	217	221.6
1940	3,013	2.3	99.9	102.2
1941	3,161	1.9	92.2	94.1
1942	2,875	1.8	78.8	80.6
1943	3,056	1.6	91.9	93.5
1944	3,364	1.5	110.1	111.6
1945	4,050	0.9	69.8	70.7

It will be noted that the lowest average mould and yeast count in the history of the service was achieved during 1945.

There was a greater interest in creamery sanitation, particularly the northern section, than has been evident for some years. Undoubtedly this change of attitude has had an important bearing on the results achieved.

Creameries experiencing difficulty in securing a satisfactory mould and yeast count or with butter quality, were given special assistance in the form of a creamery survey, including a bacteriological analysis of the water supply. The result of this work was very gratifying; in most cases immediate improvements were noted.

There were 229 butter samples received at the laboratory for pH determinations, indicating a greater desire on the part of the creamery operators to control neutralizing practices within a narrow range.

To illustrate the results of these pH determinations, the samples were grouped as follows:

pH Range	No. of Samples	% of Samples
Over 7.7	15	6.6
7.3-7.7	38	16.6
6.7-7.2	106	46.3
6.2-6.6	58	25.3
Below 6.6	12	5.2
	229	100.0

A pH range of 6.7 to 7.2 is considered very satisfactory. The above table indicates that more than half the samples examined were above or below that range, indicating that further improvement is desirable.

A change in cow testing service was made during August following which herd owners in the central and southern sections of the Province forwarded their milk samples to the Olds School of Agriculture for butterfat determination. This change reduced the number of milk tests done at the laboratory.

Other services, such as the distribution of cheese starters, preparation and forwarding of solutions and indicators used in the dairy industry, were all continued throughout 1945.

Dairy Cost Study.

The field work in keeping the dairy costs accounts at selected dairy farms and the analyzing of this data was continued throughout the year. Only one fieldman, in the person of B. J. McBain and under the direction of the Dairy Commissioner, has been engaged on this work since representatives of the Dominion Department of Agriculture were transferred to Manitoba late in 1944.

The office work has continued at the University of Alberta, where valued assistance and advice has been received from Dr. C. C. Spence of the Dominion Economics Division, and Professor Andrew Stewart of the University.

Farm account books for 102 farms, covering the cost account year 1943-44, were analyzed early in the year, and farm summaries were prepared and distributed to co-operators. The following table indicates the results of these summaries, and for sake of comparison similar figures have been included for 1942-43:

1943-44 SUMMARIES

Area and Market	Number of Farms	Average Labour Earnings \$	Average Cost per lb. Cents	Average Price Received per lb. Butterfat Cents	Average Butterfat Produced per Cow lb.
Farms selling market milk:					
Edmonton area	20	2,305	71	83	282
Calgary area	31	2,013	75	80	257
Lethbridge area	6	4,618	63	85	316
Farms selling churning cream:					
Edmonton to Calgary	23	823	67	42	210
Farm selling condensery milk:					
Red Deer area	21	917	78	55	242

1942-43 SUMMARIES

Farms selling market milk:					
Edmonton area	15	2,275	68	75	301
Calgary area	31	2,671	64	72	249
Lethbridge area	7	4,692	57	76	285
Farms selling churning cream:					
Edmonton to Calgary	30	1,307	54	40	223
Farms selling condensery milk:					
Red Deer area	49	755	64	51	237

A bulletin entitled, "The Alberta Dairy Farm Business," based on a study of the records of those farms producing churning cream, cheese milk and milk for concentration, was published during the year by the Department of Agriculture, Edmonton. This bulletin covered annual periods from June 1st, 1939, to May 31st, 1943, and was widely distributed through all dairy manufacturing plants.

It is anticipated that a complete report of the whole study will be published at an early date by the Dominion Department of Agriculture, and made available to market milk shippers in the areas under study.

The following table indicates the number of account books closed and reopened, and new account books set up during the account year commencing June 1st, 1945:

	Accounts Closed	Accounts Reopened	New Accounts
Calgary, market milk	27	24	
Edmonton, market milk	18	18	6
Lethbridge, market milk			17
Red Deer, condensery milk	17	16	1
Edmonton to Calgary, churning cream	12	16	1
	<u>79</u>	<u>74</u>	<u>25</u>

It will be noted that a larger number of account books have been set up for 1945 than were supervised during the previous year. Following a request from the Lethbridge market milk group, arrangements were made whereby the field supervision of these accounts would be handled by the Lethbridge representative of the Supervisor of Milk Control. Due to the shortage of field staff, it had been impossible to include this group during the previous year.

The following table shows the relationship of production per cow to other factors affecting income for 1942-43:

Butterfat produced per cow, lbs.	Number of Farms	Ave Labour Earnings	Ave. Crop Index %
All market milk farms:	26	\$1,908	101
Less than 270	31	2,725	109
270 or more			
All cream and condensery farms:	20	671	96
Less than 220	24	1,176	112
220 or more			

Labour earnings are greater on the farms where the average butterfat production per cow was higher. These farms also show higher average crop yields, indicating that both factors were responsible for higher labour earnings.

On the market milk farms the average production of butterfat was more than three times that of the farms producing churning cream and condensery milk. This was due to (1) a greater number of cows (almost three times), (2) a higher production per cow (approximately 30% greater).

An important effect of this larger number of cows with greater production was the efficiency in the use of labour. Only one-half the hours of labour on dairy chores were required per pound of butter fat produced on the market milk farms compared to those producing churning cream and condensery milk.

Butter Weighing.

The check weighing of butter and the issuing of weight certificates was continued by the Dairy Branch. There were 7,209 boxes weighed, which represents 59,621 fifty-six pound boxes covered by weight certificates. This was a reduction of 4,119 boxes weighed from the previous year.

Frozen Food Locker Plants.

Locker plant services were extended in all sections of the Province during 1945, with 68 plants in operation having a capacity of 18,414 standard lockers, compared with 34 plants having 8,966 lockers during 1944. One locker plant suspended operations and another was destroyed by fire.

A high standard has been maintained in the construction and equipment of the 34 new locker plants. The provision of satisfactory facilities for washing and sterilizing the equipment used in processing has been emphasized. A number of these new plants have a kitchen equipped for processing fruits and vegetables.

Sewage disposal is a problem in towns without a sewerage system, but septic tanks have been installed at a considerable number of the new plants. In other cases these installations are being delayed until projected municipal water and sewerage systems are completed.

In addition to those plants in operation, another 22 applications for licenses received approval from the Department, and these were in various stages of organization and construction at the year end.

This extensive development which more than doubled the services occurred in spite of difficulties experienced in securing construction permits, building supplies and refrigeration equipment.

While the requirements of the Wartime Prices and Trade Board with respect to securing refrigeration equipment were withdrawn during May, additional restrictions were imposed on building permits which delayed the completion of a number of plants. These building restrictions were withdrawn at the end of the year, which will mean the completion of many projected plants early in 1946.

The regulations governing the licensing of locker plants were amended to provide for the advertising of applications. An advertisement is now inserted in a newspaper having circulation in the district to which the application relates. This advertisement states that the licenses will be limited to one in that district, and a period of 30 days will elapse before making a decision in order that other interested persons may make application and present their case.

The necessity of compulsory insurance on the contents of lockers was realized following the destruction by fire of the Swalwell Locker Plant in November. Patrons experienced a complete loss of their locker contents. In order to avoid further losses of this nature, it is anticipated regulations will be drafted early in 1946 making it compulsory for locker plant operators to insure the contents of all lockers.

Inspections of all operating plants were made throughout the year by inspectors of the Dairy Branch. These inspections have shown that a very high standard of service is being maintained, and the regulations under The Frozen Food Locker Act are being conscientiously observed in the majority of cases.

The installation of maximum registering thermometers in the locker rooms has provided an effective check on unsatisfactory temperatures. Inspections have shown that well constructed locker rooms, supplied with adequate refrigerating equipment properly operated, will maintain the desired temperature with little fluctuation during periods of peak load. Where a wide fluctuation in locker room temperature has been observed, this condition is usually traced to faulty insulation, particularly as regards moisture-vapour proofing, or careless operation such as infrequent defrosting and overloading the refrigeration equipment with abnormal freezing loads.

The importance of the correct application of moisture-vapour material to the outer surfaces of loose-fill type insulation on low temperature storages cannot be over-emphasized. Faulty vapour-proofing, found in some newly constructed plants during the year, invariably results in condensation of moisture within the insulation, and eventually greatly reduces its insulating efficiency.

In a few plants irregular defrosting of both plate and blower types of evaporators has resulted in poor performance of the re-

refrigeration equipment with a resulting high fluctuation in locker room temperatures. This equipment cannot be expected to operate at the rated capacity when a layer of ice, acting as an insulator, interferes with the absorption of heat.

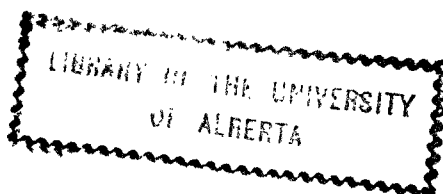
Wide fluctuations recorded on the maximum registering thermometers in some plants in the southern section of the Province were traced to the storage of large quantities of corn on the cob. In one case approximately four tons of this product packed in bags were placed in the locker room at one time. The refrigeration capacity of the equipment at this plant was not designed to handle such a heavy heat load, and consequently the temperature rose to 29°F. If the corn had been frozen at the rate of a few hundred pounds per day, the temperature of the locker room would have remained normal, and the quality of other products in storage would not have been jeopardized.

The wrapping of meat for storage in lockers has been improved considerably since 1944. This has been particularly noticeable since the introduction of the "drug store" wrap, which makes possible a tighter package with a greater exclusion of air, and also lessens the loss of moisture during low temperature storage. Better types of packages for fruits and vegetables are in general use; some of these have liners made of cellophane and other materials which can be heat sealed.

The Alberta Cold Storage Locker Plant Association held a very successful first convention on April 16th and 17th in Calgary. The programme was very well organized, and included educational lectures and demonstrations by prominent speakers on subjects of general interest to operators of locker plants. During the convention the Bruce Robinson Electric Company, Calgary and Edmonton, announced the donation of a shield to be called the Merit Award on Locker Plants for annual competition. The purpose of this award, which also includes a cash prize of twenty-five (\$25) dollars, is to promote a high standard of locker plant operation. The score card to serve as a basis for selecting the winning locker plant was prepared early in the year, and brought to the attention of all plant operators. Locker plants are to be scored by officials of the Dairy Branch, and the winner will be announced each year at the time of the annual convention.

The following table shows the pounds of various food products stored for patrons by locker plants during 1945 (preliminary report covering eleven months):

	Pounds		
Fresh meats	2,183,033	Number of plants reporting	36
Fish	24,821	Number of lockers installed	10,652
Poultry	140,439	Average number of lockers in-	
Game birds	17,251	stalled	296
Big game	22,702	Number of lockers rented at	
Cured and smoked meats	234,667	November 30th	8,911
Lard rendered	16,089	Percentage of lockers rented	
Fruits	52,383	November 30th	83.6
Vegetables	39,012	Pounds of food stored per	
Miscellaneous	3,320	locker based on lockers	
		rented Nov. 30th)	306.8
Total	2,733,717		



DATA

The following tables set forth the details of production for 1945 and statistical information concerning dairying in former years:

MONTHLY AVERAGE NET PRICES ESTIMATED PAID BY CREAMERIES IN ALBERTA
PER POUND OF BUTTERFAT IN "SPECIAL GRADE" CREAM, F.O.B.
SHIPPING POINT, FOR FOUR YEARS

	1945		1944		1943		1942	
	Cents	%	Cents	%	Cents	%	Cents	%
January	32.7	(4.8)	32.2	(4.8)	33.5	(5.1)	31.0	(4.5)
February	32.7	(5.2)	32.5	(5.2)	33.5	(5.3)	31.0	(4.6)
March	32.7	(6.1)	32.5	(6.0)	33.5	(5.8)	31.6	(5.1)
April	32.7	(7.0)	32.5	(7.5)	32.5	(7.0)	32.3	(6.3)
May	32.7	(9.2)	32.0	(10.6)	31.3	(9.8)	32.3	(9.4)
June	31.95	(14.3)	31.5	(14.4)	31.0	(13.9)	31.6	(13.4)
July	32.45	(14.6)	32.0	(14.1)	31.5	(14.1)	31.2*	(14.8)
August	32.7	(12.6)	32.5	(12.2)	31.5	(12.6)	31.2	(13.3)
September	32.7	(10.0)	32.5	(9.1)	31.5	(9.6)	32.0	(10.9)
October	32.95	(7.0)	32.7	(6.8)	31.5	(7.0)	32.7	(7.4)
November	33.45	(4.9)	32.7	(5.1)	31.5	(5.3)	33.5	(5.4)
December	33.45	(4.3)	32.7	(4.2)	31.5	(4.5)	33.8	(4.9)
The Year	32.67	(100.0)	32.28	(100.0)	31.71	(100.0)	31.94	(100.0)

*The estimated average prices paid for Special Grade butterfat during 1942, 1943, 1944 and 1945 do not include the Dominion Government Subsidy. This subsidy was 6c per lb. commencing July 6th, but was increased to 10c per lb. December 21st, 1942, and continued until April 30th, 1943, when it was reduced to 8c, effective to December 31st, 1943.

During 1944 and 1945, a subsidy of 10c per pound butterfat was in effect.

NOTE.—The figures enclosed in brackets represent the monthly percentages of the cream receipts for the year.

CREAMERY BUTTER PRODUCTION

Year	Creameries	Pounds Butter	Selling Value	
			Total	Cents per lb.
1920	53	11,821,291	\$ 6,555,509	(55.45)
1925	99	19,630,101	6,959,059	(35.45)
1930	92	17,716,744	4,968,227	(28.04)
1935	97	23,094,707	4,588,917	(19.90)
1940	95	29,796,520	6,647,604	(22.31)
1941	94	35,316,143	10,789,082	(30.55)
1942	94	36,985,909	11,835,491	(32.00)
1943	93	38,656,940	12,443,669	(32.19)
1944	93	37,806,568	12,207,172	(32.29)
1945 (Est.)	91	34,650,000	11,261,250	(32.5)

FACTORY CHEESE PRODUCTION

Year	Factories	Pounds Cheese	Selling Value	
			Total	Cents per lb.
1920	7	398,750	\$ 110,355	(27.70)
1925	14	1,473,835	306,604	(20.80)
1930	8	1,035,352	175,392	(16.94)
1935	11	1,364,526	168,280	(12.33)
1940	18	2,705,853	385,584	(14.25)
1941	18	3,140,978	614,061	(19.55)
1942	20	3,908,545	843,464	(21.58)
1943	18	2,563,257	592,112	(23.10)
1944	18	3,712,936	819,106	(22.06)
1945 (Est.)	18	3,970,000	893,250	(22.5)

CREAMERY BUTTER PRODUCTION

	1944 Pounds	1945 Pounds	% Increase	
			*Decrease	†Increase
January	1,717,533	1,652,753	* 3.8	
February	1,791,800	1,622,435	* 9.5	
March	2,309,790	2,104,374	* 8.9	
April	2,678,035	2,358,728	* 11.9	
May	4,172,120	3,227,267	* 22.6	
June	5,497,498	4,902,468	* 10.8	
July	5,255,529	5,017,010	* 4.5	
August	4,902,006	4,598,995	* 6.2	
September	3,494,016	3,384,369	* 3.1	
October	2,521,162	2,597,552	† 3.1	
November	1,864,249	1,679,361	* 9.9	
December	1,602,830	1,504,688 (Est.)	* 6.1	
	37,806,568	34,650,000	* 8.4	

FACTORY CHEESE PRODUCTION

	1944	1945	%
	Pounds	Pounds	*Decrease †Increase
February	163,677	249,040	† 52.2
January	188,355	249,619	† 32.5
March	264,655	311,318	† 17.6
April	286,179	330,047	† 15.3
May	416,753	390,072	* 6.4
June	499,477	525,995	† 5.3
July	479,060	529,736	† 10.6
August	419,272	480,477	† 14.6
September	325,351	373,281	† 14.7
October	256,612	248,793	* 3.0
November	205,014	131,651	* 35.8
December	208,531	149,971 (Est.)	* 28.1
	3,712,936	3,970,000	+ 6.9

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	\$ 546,476	1940	\$19,532,344
1910	7,855,761	1941	27,376,772
1915	15,896,586	1942	31,574,838
1920	34,000,000	1943	34,428,814
1925	23,002,000	1944	35,411,820
1930	18,675,500	1945 (Est.)	34,054,047
1935	14,252,500		

MILCH COWS

Year	Cows	Year	Cows
1901	46,101	1936	458,200
1906	101,235	1940	416,800
1911	147,687	1941	362,064
1916	277,324	1942	366,800
1921	432,838	1943	376,000
1926	436,500	1944	385,500
1931	385,000	1945	376,400

REPORT OF THE ADMINISTRATOR OF MILK CONTROL

(A. T. NEALE)

The Agricultural Food Board and the Dairy Products Division of the Wartimes Prices and Trade Board continued throughout the year 1945 to formulate and direct the policies of the fluid milk industry of the Dominion, and as a result the work of the Board of Public Utility Commissioners in its relation to this aspect of milk control has been simplified, and has been mostly of a routine nature.

In order that adequate supplies of milk be maintained and made available for fluid consumption, it became necessary for the Board in certain areas of the Province in which adverse production conditions had prevailed to recommend payment of the milk producers subsidy or to arrange for retail milk prices increases. These adjustments made it possible for the operators affected to remain in business, and milk supply shortages were prevented from developing.

Fluid milk demand continued to increase throughout the year, making it necessary for the Board to arrange for supplies from other than regular sources. The co-operation of the various health authorities greatly assisted the Board to do this.

Meetings.

During the year, representatives of the Board attended the following meetings with Federal authorities and Provincial Milk Control agencies to formulate and co-ordinate policies relating to fluid milk supply and prices:

Saskatoon: Western Milk Control Agencies.

Ottawa: Agricultural Food Board; Wartime Prices and Trade Board and Milk Control Agencies of the Dominion.

Consumers' Subsidy.

Approximately 550 milk distributors operating in the Province received reimbursement monthly for allowance of this subsidy by them to their customers at the rate of 2c per quart.

Producers' Subsidy.

This subsidy was paid on regular settlement dates on approximately 137,725,000 pounds of milk, to all producers who had supplied milk for fluid consumption to 68 markets by 170 distributors, who received reimbursement for such payments monthly. The subsidy was paid at the following rates: January 1st-April 30th; October 1st-December 31st, 55c per 100 pounds; May 1st-September 30th, 35c per 100 pounds.

In a few instances where producer-distributors have benefitted as a result of price adjustments, the subsidy rate has been 25c per 100 pounds.

Price Adjustments.

After proper enquiry had been made in each case, the Board recommended, and the Wartime Prices and Trade Board approved, milk price adjustments on the 32 markets following: Alix, Banff, Barrhead, Bassano, Benalto, Bentley, Calmar, Crow's Nest Pass, Canmore, Carbon, Chinook, Edgerton, Galahad, Hanna, Hughenden, Irricana, Lanfine, Leduc, Mannville, Minburn, Morrin, Mundare, New Sarepta, Northville, Redcliff, Robb, Sexsmith, Taber, Two Hills, Vimy, Wembley and Wildwood.

TABLES

1. Per Capita, per diem, Consumption of Fluid Milk in Pints, Monthly, for 1945.
2. Consumption of Fluid Milk in the Cities of Calgary, Edmonton, and Lethbridge, Monthly, 1945.
3. Consumption of Fluid Cream in the Cities of Calgary, Edmonton and Lethbridge, Monthly, 1945.
4. Fluid Milk Consumption in the Cities of Calgary, Edmonton and Lethbridge, 1941-1945.
5. Fluid Cream Consumption in the Cities of Calgary, Edmonton and Lethbridge, 1941-1945.
6. Fluid Milk Purchases by Edmonton, Calgary and Lethbridge Distributing plants, 1941-1945.
7. Summary of Milk and Cream Producers operating on December 31st, 1945, under Board of Public Utility Commissioners' license.
8. Summary of Milk and Cream Distributors operating on December 31st, 1945, under Board of Public Utility Commissioners' license.
9. Effective Milk and Cream Prices in Alberta Controlled Areas.

TABLE 1

PER CAPITA CONSUMPTION OF FLUID MILK, IN PINTS, MONTHLY, FOR 1945
(To include Cream Consumption Converted to Milk Equivalent)

Areas	PINTS (PER DIEM)											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1.126	1.155	1.157	1.135	1.120	1.112	1.154	1.124	1.145	1.179	1.145	1.131
Edmonton	1.003	.936	1.043	1.055	1.053	1.14	1.013	1.005	1.038	1.056	1.123	1.200
Lethbridge	.91	.93	.99	.94	.95	.96	.98	1.03	1.00	1.09	1.06	1.05

TABLE 2

CONSUMPTION OF FLUID MILK IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1945—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1,227,603	1,143,189	1,267,030	1,199,323	1,229,892	1,185,364	1,277,541	1,238,167	1,200,939	1,284,746	1,237,815	1,226,510
Edmonton	1,320,177	1,234,893	1,381,291	1,342,746	1,414,096	1,565,520	1,410,164	1,366,431	1,344,265	1,509,612	1,481,070	1,676,568
Lethbridge	179,206	167,305	198,498	178,145	190,397	188,270	196,475	208,699	194,544	214,489	207,338	209,444

TABLE 3

CONSUMPTION OF FLUID CREAM IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1945—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	110,992	101,290	112,554	107,906	107,664	102,028	107,151	106,974	111,889	116,750	116,268	114,260
Edmonton	121,166	112,123	123,440	121,295	116,251	114,450	114,330	123,998	131,322	132,427	133,348	134,243
Lethbridge	12,846	12,080	13,814	13,130	12,591	12,196	12,650	12,657	13,338	15,578	14,184	14,900

TABLE 4
FLUID MILK CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND
LETHBRIDGE, 1941-1945—IN QUARTS

Area	1941	1942	1943	1944	1945
Calgary	10,043,712	11,967,311	14,026,370	14,883,161	14,718,119
Edmonton	10,823,425	11,763,647	15,831,989	16,585,994	17,046,833
Lethbridge	1,517,788	1,503,589	1,989,889	2,203,781	2,333,010
Totals	22,384,925	25,234,547	31,848,248	33,672,936	34,097,962

TABLE 5
FLUID CREAM CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND
LETHBRIDGE, 1941-1945—IN QUARTS

Area	1941	1942	1943	1944	1945
Calgary	967,339	949,838	1,019,296	1,263,110	1,315,726
Edmonton	962,911	934,799	1,288,231	1,467,631	1,478,393
Lethbridge	104,357	117,780	129,419	157,789	159,958
Totals in quarts	2,034,607	2,002,417	2,436,946	2,888,530	2,954,077
Totals in B.F. equivalent, lbs.	852,944	752,292	728,347	820,484	759,458

TABLE 6
FLUID MILK PURCHASES BY CALGARY, EDMONTON AND LETHBRIDGE
DISTRIBUTING PLANTS, 1941-1945

Area	1941	1942	1943	1944	1945
Calgary	33,526,356	37,971,410	41,437,886	46,353,477	46,982,078
Edmonton	27,478,447	31,392,466	40,097,468	43,135,693	43,673,442
Lethbridge	3,986,417	5,398,593	11,776,105	10,623,093	9,534,137
Totals	64,991,220	74,762,469	93,311,459	100,112,263	100,189,657

†Includes Milk for Airport.

*Includes Milk for Airport to December 31st, 1945, and Milk for Prisoner of War Camps to July 15th, 1945.

TABLE 7
SUMMARY OF MILK AND CREAM PRODUCERS OPERATING ON DECEMBER 31st,
1945, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS' LICENSE

Controlled Area	Milk	Cream	Total
Calgary	223	50	273
Camrose	9	5	14
Crow's Nest Pass	9		9
Edmonton	268	38	306
Lethbridge	32	3	35
Ponoka	3		3
Red Deer	29	7	36
Totals	573	103	676

TABLE 8
SUMMARY OF MILK AND CREAM DISTRIBUTORS OPERATING ON DECEMBER 31st,
1945, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS' LICENSE

Controlled Area	Milk	Cream	Total
Bowden	1		1
Calgary	5	3	8
Camrose	2		2
Crow's Nest Pass	4		4
Edmonton	18	1	19
Lethbridge	3		3
Ponoka	1		1
Red Deer	2		2
Totals	36	4	40

TABLE 9
MILK AND CREAM PRICES EFFECTIVE DECEMBER 31st, 1945, FOR ALBERTA
CONTROLLED AREAS

Area	MILK		CREAM		
	Price to Producers per 100 lbs. (3.6% B.F.)	To Consumers per Quarts	To Producers per lb. B.F.	To Consumers 10% Sub-standard per Pint	To Consumers 18% B.F. per Pint
Bowden	\$2.28	*11c	\$.45		\$.25
Calgary	2.60	*12c	.45	.17	.28
Camrose	2.28	*11c	.45		.25
Crow's Nest Pass	3.02	*14c	.45	.17	.28
Edmonton	2.60	*12c	.45	.17	.28
Lethbridge	2.55	*12c	.45	.17	.28
Ponoka	2.28	*11c	.45		.25
Red Deer	2.28	*11c	.45		.25

*Lawful quart price—subject to 2c per quart Consumer Subsidy authorized by Order No. 1250 of The Wartime Prices and Trade Board, Ottawa.

REPORT OF POULTRY COMMISSIONER

(C. W. TRAVES)

As pointed out in the 1944 report, the National Poultry Conference of that year started the poultry year off in a very auspicious manner.

The continuance of the war demand for poultry products into 1945, coupled with the post-war food shortage meant that 1945 was once more a banner year for those in Alberta who were a part of our poultry industry. J. A. Peacock was brought over from England on a Canadian tour to advise us on the tremendous need for more and still more Canadian eggs, this time in shell form as well as dried.

Shell Egg Contracts.

Mr. Peacock assured poultry producers that Britain was again in the market for shell eggs in large quantities, provided that these eggs could be delivered during the season of short supply in Britain. As their and our season of long supply correspond, this new demand meant that we must hatch more early chicks and hurry more birds through the summer moult in order to get the surplus shell eggs required for early fall and winter shipment. As an added inducement to the producers a bonus of 6c per dozen was paid on these eggs from September 15th to December 15th. As Alberta for some years was ahead of the other Prairie Provinces in the production of early chicks, she was in a more favourable position to take advantage of this new development on short notice, and stood next to Ontario in the production of fall and winter fresh shell egg and early storage egg production. Naturally this meant an extended season of reasonably higher prices to many of our producers.

As mentioned in the previous two Annual Reports, the Dominion Poultry Marketing Services in Alberta have been setting a very high standard for our Registered and Licensed Egg Grading Stations, and while some of our dealers have felt that the standard was too far above the requirements of some other provinces, the majority co-operated to the best of their ability. The result is that today we have about 175 full registered stations, practically all of which have, or are having installed, mechanical refrigeration. The value of such a set-up was amply proved in the smooth handling of the large volume of fresh shell eggs to Britain, shell eggs into storage for winter delivery, and surplus eggs to the drying plants. Alberta eggs had the greatest distance to travel, other than those from British Columbia, and they arrived in Britain with one of the top scores for quality.

We have been assured that the shell egg contracts will continue during 1946 and possibly 1947, or longer.

The unfortunate slipping of egg quality during the months of hot weather was more noticeable during 1945 than during the previous year when summer quality was maintained at a comparatively higher level than had been usual for that period of production. Shortage of help, drought conditions, higher costs and other reasons were advanced, but the old standby "indifference"

must be given first consideration. Poultry producers had a floor price to work on all through the months of hot weather production, and they must realize that this period of their poultry revenue is just as important as any other part of the year. Low grade eggs are out as far as export demand is concerned, and they are also a depressing factor on the domestic markets. Every possible attention must be given to improvement in the quality of our hot weather production.

Dressed and Live Poultry.

Throughout 1945 the dressed poultry market caused little if any worry. With the export demand to the United States plus the increased domestic consumption, due to the rationing of other meats, at no time did it appear that there might be any surplus of poultry meat. As stated at the beginning of this report, we saw a drive at the beginning of the year aimed at producing every possible pound of poultry meat. The broiler production campaign put on in Alberta achieved rather spectacular results.

In this report we have linked "Dressed" and "Live Poultry", as we feel that the two are inseparable. During 1945 we had the usual trade complaints regarding the large percentage of thin, poorly finished birds that were received by the finishing and packing stations. This seemed partly due to the heavy receipts of New Hampshire chickens at the "rangy" stage. However, as pointed out in previous reports, there is too big a spread between the live prices being paid to the producers and the ceiling dressed prices being paid by the consumers to encourage the producers to put a better finish on their market quality. Rail grading was advocated and large numbers of birds were sold on this basis, but even in this there were sufficient unsatisfactory experiences by the producers to maintain the viewpoint, "there is still too big a spread between what the producer receives and what the consumer pays for poultry meat."

During the fall it became quite evident that if export permits were allowed to continue that there would not be a sufficient reserve stock pile of poultry meat left in Canada to take care of off-season requirements. The Dominion government, therefore, cancelled the export permits and insisted on a 18,000,000 pound stock pile being created.

The real surprise of our market came with the turkey deal at Christmas. It had been estimated that the turkey crop would be equal to or very nearly that of 1944. As it turned out finally, the marketings were approximately 50 car lots, or about 30% below 1944. This condition was not peculiar to Alberta, as it was estimated that the turkey crop of Manitoba was down 40% and that of Saskatchewan about 50%. Undoubtedly there were a few extra birds carried over for breeding purposes, but this only partly accounts for a situation that really surprised all concerned.

Flock and Hatchery Approval Regulations.

There has been one Dominion-Provincial and two western regional meetings regarding these regulations, but to date very little in the nature of final results were evident. The services of an incubator expert last hatching season proved that much of the hatchery equipment, especially home made equipment, was giving unsatisfactory results, not only in lowered hatchability, but in lower quality of

chicks hatched as well. The short while that the newly appointed Sanitary Inspector was able to size up the situation left no doubt in his mind that with a number of the hatcheries the mode of operation that had been allowed to exist for years was definitely in need of improvement.

There was, as usual, quite a number of new flock approval entrants with the usual changing by some entrants from one breed to another. The New Hampshire breed has been causing some worry from the standpoint of pullorum infection, but we believe that this breed, like the others, is now fairly well under control. As in previous years, we experience the heaviest reaction with imported stock.

Year	Method of Testing	No of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	" "	232	31,177	12.9
1932-33	" "	188	26,381	8.6
1933-34	" "	205	33,295	7.3
1934-35	" "	645	104,858	11.2
1935-36	" "	615	94,536	5.5
1936-37	" "	815	136,228	5.5
1937-38	" "	677	108,908	4.8
1938-39	" "	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	" "	412	91,868	2.6
1941-42	" "	510	120,198	2.12
1942-43	" "	460	120,841	0.35
1943-44	" "	664	165,903	0.716
1944-45	" "	694	198,877	0.736

Chick sales showed some reduction, largely due to the conflicting reports being received during the early part of the season. The percentage of R.O.P. sired chicks showed a heavy increase over previous years, and it is felt that this should show improvement in the general quality of stock being kept on the farms buying Alberta chicks.

Year	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	924,300		1,028,881	
1937	1,036,526	112.1	1,068,056	103.8
1938	1,033,906	111.9	1,171,082	113.8
1939	1,052,759	113.9	1,394,194	135.5
1940	1,203,368	130.2	1,538,597	149.7
1941	1,269,117	137.3	1,938,052	188.4
1942	1,407,280	151.2	2,631,468	255.8
1943	1,408,070	152.3	3,607,372	350.6
1944	2,102,434	223.1	5,476,476	532.3
1945	2,208,938	238.9	4,917,366	477.9

Turkey Approval and Banding Policy.

As stated at the beginning of this report, it was the intention of the three Prairie Provinces over two years ago to draw up a uniform turkey approval and banding policy. However, during June, 1944, representatives of the three Prairie Provinces poultry branches met at Regina for a three-day discussion on all phases of a turkey policy. These meetings proved very fruitful indeed, and the final outcome was a uniform Turkey Approval and Banding Policy, agreed upon and adopted by the three prairie departments. This policy later was accepted 100% by the various Provincial turkey breeders' associations, and was also warmly praised by hatcherymen, members of the trade and others, and we have every right to feel optimistic as to the final beneficial results that will result from such a policy. In fact, most of our old-time turkey breeders, as well as new ones, are going in for expansion of their turkey breeding flocks under the policy, and at least eight Approved Commercial Hatcheries are interested in the day-old turkey poult business for 1946, some of them to the extent of installing special hatching equipment for turkey eggs. We anticipate a steady increase in the

day-old poult business to the point in a few years where farmers will be replenishing their turkey flocks from the hatcheries the same as they do their chicken flocks today.

Provincial Poultry Plant.

For the past few reports we have been emphasizing the fact that the Poultry Plant was rounding into shape, and that it was rapidly reaching the point where revenue would equal expenditure. This year we are pleased to be able to report that we have reached that point.

Although the help situation has again shown slight improvement, we are of the opinion that suitable living accommodation and a better rate of pay must prevail for the help on such government farms before we can expect to obtain and hold for any length of time the class of help that can be entrusted to carry on the types of work on such a farm as the Poultry Plant.

The large representative entry made under R.O.P. allowed us to again show an increase in the number of wing-banded cockerel chicks and mature banded cockerels to our Leghorn Approved Flock owners. This year about 11,500 chicks and 300 banded mature chicks were sold.

For the 1944-45 R.O.P. period we again made one of the largest representative entries for one breed in Canada—495 out of 800 pullets housed. These all followed the family entry system, and again the showing was very creditable; in fact, as the following table shows the results were outstanding:

RECORD OF PRODUCTION, 1945

Birds entered		495
Birds certified	401	81.1%
Birds failed production	18	3.6%
Birds failed egg weight	15	3.0%
Birds culled	36	7.4%
Birds died	25	4.9%
	495	
Average production		224 eggs
Average egg weight		25.2 oz.
10 birds averaged 300 eggs and over.		

PROGENY TEST

Number of families			50
			Average
Passed progeny test	39	78%	Prod. 231.1
Failed progeny test	11	22%	192.6
			Egg Wt. 25.3
			24.9
Number of Males entered			12
Number of Males passed			6

The more the above table is studied, the more one becomes impressed with the exceptionally high average results that were obtained.

The usual co-operation was extended to the Poultry Husbandry Department of the University of Alberta, not only in providing class facilities, but in special feeding experiments, etc.

Work with the broad-breasted and standard bronze turkeys was continued, and the results being obtained are very gratifying. Work of rearing turkeys on verandahs was not carried to completion due to lack of proper equipment, and also to lack of experienced assistance for the work.

Laying pullets were supplied to the Olds School of Agriculture, Vermilion School of Agriculture, and to the Department of Health for their Red Deer Training School.

As manager of the Provincial Poultry Farm, W. E. Hughes deserves high commendation for his untiring efforts, often under rather adverse conditions. The splendid results obtained were largely due to Mr. Hughes' work and initiative.

Peace River Block.

This was the first time for many years that some poultry service was given in the Peace River Block. C. W. Carleton, formerly with the Department of Health as manager of the Ponoka Hospital flock, opened a commercial hatchery at Grande Prairie. On the completion of the hatching season his services were obtained to give some poultry service, hold poultry meetings, and give culling demonstrations. Later in the season he attended to the Flock Approval work around Grande Prairie and Peace River. This work was greatly appreciated, and it is hoped that it can be continued in the future.

REPORT OF DIRECTOR OF EXTENSION

(R. M. PUTNAM)

During 1945 the Agricultural Extension Service was able to discontinue some of the activities it had undertaken as part of the war effort. With the termination of hostilities, much of the work involved in the Dominion-Provincial Farm Labour programme was no longer required, and the easing of controls on supplies of certain production goods and equipment relieved the service of a portion of its erstwhile duties. The relief thus afforded permitted the service to devote more time to the consideration of purely agricultural problems.

Three former members of the District Agriculturist Service received their discharges and returned to resume their duties. The District Agriculturist staff was increased by the opening of two new offices, Strathmore and Spirit River, and several other changes of staff occurred as the result of changes in other branches of the Department. Staff changes in the District Agriculturist service will be found in that section of this report.

The Women's Division was enlarged by the appointment of a nutrition specialist, Miss B. J. Lewis, and by the opening of one temporary new District Home Economist office at Westlock.

A development of considerable significance to the Extension Service occurred in 1945 with the enactment of The Agricultural Service Boards Act. This act provided for the setting up of Agricultural Service Boards in Municipalities and Improvement Districts for the purpose of dealing with local agricultural problems. The District Agriculturists were named as members of these boards, and the act provided that certain financial assistance from the Department should be advanced to a Municipality on a contributory basis. By the end of 1945, 16 Municipalities had set up Service Boards. Although the main activities undertaken by the Service Boards in 1945 related to weed control, many undertook to assist the District Agriculturist with his extension activities, and studied other possibilities of being of service to the district.

The ending of the war will permit the Extension Service to resume programmes which were curtailed in favour of more urgently required wartime activities. New programmes and approaches must also be developed to meet the problems peculiar to the post-war situation. As Canada's place in the post-war world becomes more definite, programmes should be designed to assist Alberta farmers to make their full contribution. In so far as possible, these programmes should consider, through the Agricultural Service Boards, the peculiar needs of every district, and local people should be encouraged to meet their own local problems. The Extension Service may be called upon to give more guidance and leadership than heretofore.

The Extension Service received excellent co-operation and assistance throughout the year from many sources and agencies. To all of these, sincere thanks and appreciation is expressed.

Short Courses, Field Days, and Agricultural Meetings.

Meetings of various kinds continued to be an important and popular extension activity during 1945. The Short Course, consisting of a two or three day series of discussions during the winter, is popular in a number of larger centres, but the agricultural meeting, lasting usually for an afternoon or evening, or both, is the most popular form of gathering of the seasons. Demonstrations and field days are held during the summer months when actual field or barn demonstrations can be conducted. This type of activity is most valuable, as farmers are given the opportunity of actually seeing equipment in operation or of handling live stock, etc.

The total number of meetings held in 1945 was 1,444, and attendance numbered approximately 79,463.

During the months of January, February and March, 25 "Wiltshire Bacon Shows" were held at selected points in the Province. These shows drew total attendance of 2,955 people. At one point the attendance was 250 farmers. The bacon shows were conducted in co-operation with the Production Service, Dominion Department of Agriculture. Ten Wiltshire sides taken from hogs raised and marketed in the district where the show was to be held were selected and displayed at the bacon show. These practical demonstrations to show the quality of the hogs actually produced in the respective districts were most instructive.

A series of ten swine field days were held in July. By special arrangement, the T. Eaton Co., Winnipeg, provided assistance toward the cost of assembling the hogs for demonstration classes. Total attendance numbered about 400 farmers. These field days were held in districts where the grading of hogs suggested improvement was desirable.

Agricultural Engineering.

The activities of the Extension Agricultural Engineer, B. T. Stephanson, included a variety of projects. During the first three months of 1945, topics dealing with some agricultural engineering problems were discussed at 49 meetings and short courses. A series of 72 Farm Machinery Field Days were held during the period May 25th to July 10th. F. F. Parkinson, School of Agriculture, Olds, and J. M. MacKenzie, Institute of Technology and Art, Calgary, each assisted with these field days by taking an itinerary of meetings. Proper hitching and adjustment of machinery for effective operation were featured. Attendance averaged 61 persons, which is considered ample for a demonstration. Two special Haying Machinery Field Days were held.

A series of 12 Harvesting Machinery Short Courses was arranged during the latter part of July and the first part of August. These consisted of a two-day short course with morning and afternoon session. The care, repair and adjustment of binders, threshing machines and combines were covered. Average attendance for the twelve courses was 63. Messrs. Parkinton and MacKenzie acted as instructors, and machinery was provided by the Alberta Wholesale Implement Association through its various members. Appreciation is expressed for the assistance of the Association, and particularly for the help given by the local agents.

Some investigations were carried on in the harvesting of forage crop seed. Combines were tested, and although found to be doing a

fairly satisfactory job, the use of special attachments and proper adjustment was found to be desirable. More work in the harvesting of forage crops is needed.

Rural electrification expanded in 1945. There were 1,267 farms being served by central station power, and it is estimated that another 2,000 farms will be connected to high lines in 1946. More extension work demonstrating the efficient use of electricity in lowering farm costs is required.

Interest continued high in water systems and sewage disposal plants. Problems relating to the use of farm machinery and questions about fuels and oils were prominent in the list of topics covered at meetings and other gatherings.

Publications and Statistics.

During 1945 the Department distributed 216,500 bulletins, circulars and plans. Four new bulletins were published during the year and a number of publications and plans were reprinted or revised. A list of the new bulletins and reprints follows herewith:

- Circular 5—Use of Fertilizers in Alberta (revised).
- Bulletin 10—Production of High Quality Cream (revised).
- Bulletin 35—Beekeeping for Beginners in Alberta (reprint).
- Leaflet 37—Fowl Paralysis or Leukemia (reprint).
- Leaflet 62—Use of Protein Mineral Supplements in Poultry Feeding (reprint).
- Circular 68—Wild Rose Hips (revised).
- Circular 71—The Control of Wild Oats in Alberta.
- Bulletin 72—Preserve by Freezing.
- Bulletin 73—Alberta Dairy Farm Business.
- Bulletin 74—The Hot School Lunch.
- Special Leaflets—Honey Helpings (reprint); Horticultural Varietal Zonation Map (revised); Simple Water and Disposal Systems.
- Plans—Small Farrowing Hog Pen (reprint); Double Purpose Hog Barn (reprint); Self Feeder for Cattle (reprint); Hog Waterer (reprint); Single and Double Deck Poultry House (reprint); Open Range Poultry House (reprint); Self-Feeder for Hogs, Plan 11 (reprint); Self-Feeder for Hogs, Plan 12 (reprint); Self-Feeder for Hogs, Plan 416 (reprint); Cattle Squeeze Gate (revised).
- Joint Publications—Joint Series No. 5, Farm Cheesemaking.

The Department continued the periodic issue of certain publications. Agricultural Notes were issued weekly. This mimeograph carries practical farm information, and is published mainly for the benefit of the press and agricultural officers.

During the year 13 issues of Agricultural Information were published under the supervision of R. E. English. These issues provided the latest information available on current agricultural subjects. A list of the subjects covered in each issue follows:

- No. 1—Co-operative Farming in Canada.
- No. 2—Co-operative Farming as Practised by Religious and Economic Groups.
- No. 3—Australia and Food Production in the United Kingdom.
- No. 4—The Competition between Wool and the Artificial Fibres.
- No. 5—Erosion Control in Relation to Weed Eradication.
- No. 6—Agriculture is Reaping the Fruits of Chemical Research.
- No. 7—Hoary Cress.
- No. 8—Perennial Weed Control Experiments in Kansas.
- No. 9—Providing Incentive for Farm Workers.
- No. 10—The Role of Honeybees in the Pollination of Legumes.
- No. 11—Victory Bonds and the Farmer.
- No. 12—Agriculture and the Post-war Period.
- No. 13—The Utilization of Whey.

The Annual Report of the Department was published and distributed to members of the Legislature before the 1945 session was prorogued.

The report of Agricultural Conditions was prepared and published every two weeks from May to September. It was followed by a Summary of Conditions in October.

The Junior Farm Club Bulletin was published quarterly. This publication is mailed to all members of Junior Clubs.

Agricultural statistics are compiled and provided to the extent that available staff will permit. With the ending of the war and important post-war national policies in the offing, the need for more agricultural statistics is urgent. It is noted with appreciation that the Dominion Bureau of Statistics is contemplating an agricultural statistics conference early in 1946.

A preliminary estimate of production for 1945 was issued in October, and various mimeographs were prepared as the need arose.

Radio.

More attention was given to the radio as a means of disseminating information during 1946. E. B. Swindlehurst assumed full charge of the Farm and Home Forum Programme under the general direction of the Radio Committee, composed of representatives of the University and the Department of Agriculture. Greater variety was introduced into the programmes, and an attempt was made to make them interesting and appealing.

The Alberta Farm and Home Forum, presented as a joint effort of the University and the Department on Monday, Wednesday and Friday evenings, was continued throughout the year. Its purpose is to stimulate interest in the field of agriculture and home economics; to supply the farmer and his wife with information on agricultural policies, practices and research, to keep them informed of developments likely to help in their occupation, and to draw attention to assistance available from various sources. The broadcast was given over CKUA and CFCN.

The Department maintained its representation on the Provincial Farm Radio Committee which supervises local matters connected with National Farm Radio Forum.

A number of special radio talks were given during the year on subjects of timely and particular importance.

Agricultural Fairs.

Sixteen fairs were held in Alberta in 1945. This represents an increase of two from 1944. The following were the fairs: Class A, Calgary and Edmonton; Class B, Lloydminster, Red Deer, Vegreville, and Vermilion; Class C, Benalto, Didsbury, Falher-Donnelly-Girouxville, Lousana, Olds, Priddis-Millarville, Warspite-Waskataneau, Westlock, Wildwood, and Willingdon.

The fairs enjoyed a successful season in 1945. Although the number of entries did not change appreciably from 1944, high attendance was maintained and revenues increased. Several fairs now enjoy a reasonably sound financial position. Despite the ending of hostilities, lack of labour restricted an increase in entries, but at several of the larger fairs new activities such as horse-racing were introduced.

The four Class B Fairs conducted camps for boys and girls, which were generally well attended and satisfactory. Most fairs are interested in developing the junior section now that war has ended.

The Department continued its assistance to fairs on the same basis as in 1944.

During the fall of this year the Department reviewed its fair programme, and a committee was set up to study the prize lists and to prepare a fair handbook. The work of the agricultural societies was reviewed, and suggestions were made to develop certain activities which agricultural societies started during the past few years. It is expected that during 1946 a start will be made towards the development of a long-time fair policy designed for the post-war period.

The co-operation and assistance of all of the fairs will be solicited in developing the programme.

WOMEN'S EXTENSION WORK

Mrs. Vera Macdonald, Supervisor of the Home Economics Division, reports that home economics extension services for women and rural girls have been considerably improved and broadened in scope as a result of having District Home Economists available throughout the year, rather than just the summer months. Home makers in districts served by permanent District Home Economists are now able to obtain more timely and practical assistance with their family and community problems.

The District Home Economists state that the needs and demands for assistance by women's groups already contacted require more time than available, without reaching new areas and groups within the district. This not only indicates the need and demand for this service, but also that the areas assigned are too large and more assistance is required.

An important development in Women's Extension is the appointment of an Extension Specialist in Nutrition, Miss B. Joyce Lewis. This appointment is meeting the need for one person to devote her entire time to the planning of nutrition programmes and to act as adviser and co-ordinator to other departments and organizations interested in nutrition. As Women's Extension work progresses it is hoped that specialists in other fields of Home Economics may be appointed.

The Women's Division has co-operated with other government departments and organizations during the year. Assistance was given the Department of Veterans' Affairs in planning a course for brides settling on Veterans' Land, and the Vermilion School of Agriculture in planning the Home Economics course for girls. Much work has been done in association with Rural Health Units and District Nurses. A Farm Women's Nutrition Camp held for one month to train leaders for nutrition study groups was planned and directed by this Branch in co-operation with the Edmonton Rural Health Unit. Through the school lunch programme, this Branch has given leadership and assistance to the boards of several school units and also local town committees or organizations in charge of food for school dormitories.

This year's programme was planned to assist the homemaker meet shortages of food products, textiles and equipment. Following the end of the war two topics of importance were emphasized—

"Buymanship" and "Home Planning". Home makers were encouraged to postpone any buying of furnishings and equipment they could and to carefully study features of new equipment and supplies so as to get the most for their dollar. Information and suggestions on reconditioning, re-styling, and proper care of materials and equipment were given. With the increased tempo in building and remodelling of homes has come a demand for assistance in planning the arrangement of rooms and especially kitchens, for information on building materials, wall and floor finishes, labour savers, home decoration and many other problems. The value of this service in meeting these demands cannot be overestimated when it means the building of homes that save steps, that are easy to clean, with adequate storage space and lighting, and that will provide a higher standard of living. However, such a service requires individual help by home visits, which are limited at present since the Home Economists haven't cars.

Something new was tried during the summer months when G. Carter, instructor in carpentry at the Olds School of Agriculture, gave instruction to women's groups on the making of home labour savers and the technique in painting and refinishing interior wood surfaces. There were 41 of these meetings arranged by this Branch, with an attendance of 1,421. A District Home Economist accompanied Mr. Carter to speak on Home Planning and Decoration. This combination proved so popular that consideration may be given to holding Home Mechanics Clinics at which homemakers could assemble semi-prepared materials.

A problem this Branch must face is the fact that trained and suitable women for staff will likely continue to be as difficult to find as during the war years. This is partly due to the many new fields of work opening to Home Economists, and also that very few rural girls, who are best fitted for extension work, attend University to study Home Economics. Some encouragement is given to capable girls in our rural girls' clubs and at the School of Agriculture through scholarships, but this is as yet very limited. Consideration should be given the possibility of training undergraduates as assistant District Home Economists during the summer months.

The main activities of the Women's Extension Service are as follows:

Demonstrations and Home Makers Clinics.

A total of 990 demonstrations were held at which the attendance was 34,388. In addition, there were 152 other meetings such as field days, fairs, conferences, conventions, leaders' meetings, and National Film Board Forums, at which the Home Economists addressed mixed groups as well as women. The main topics presented were as follows:

1. *Prepare for Tomorrow.*—

- (a) Home preservation of fruits, vegetables and meats by canning, drying and quick freezing. Also, How to best use canning sugar for jams, jellies, pickles.
- (b) Using Alberta's Wild Fruits.
- (c) Food is Everybody's Business.
- (d) Any demonstration the group may wish or topics such as: Baking on the Sugar Ration, What's for Supper?, Salads, Stretching the Meat Ration.

2. *Business and Buymanship for the Home Maker*.—Includes: Women's rights, Getting the most for your dollar when shopping, New materials, equipment and their care.
3. *Home Planning and Improvement*.—Making a House a Home, Financing the Home and Improvements, Storage Spaces for the Home, Kitchens, The Utility Room, Farmhouse Bathrooms, Electricity on the Farm, etc.
4. *Home Makers' Clinics*.—
 - (a) Making a Judy or Dress Form.
 - (b) Short Cuts to Laundry, Dry Cleaning and Stain Removal.
 - (c) Practical Handicrafts for the Home, also Bazaar Ideas: stencilling, costume jewelry, pictures, plaques, string rugs, etc.
 - (d) Renewing Old Furniture.
 - (e) Slip Covers, Curtains and Draperies.
 - (f) Sewing Clinic: Remakes, Dress Trimmings and Finishes, Advanced Sewing, etc.
 - (g) Look Your Best for "Him"—diets, good grooming, hair styles, etc.
5. *Democracy in the Family*.—Family and social adjustments in the Post-war World.

The Home Makers' Clinics at which the women actually work on their own materials and problems, under the Home Economist's supervision, are held for one to three days at a centre. This method of extension has proved to be a very popular and practical way of assisting home makers to help themselves and to improve their standard of living.

Girls' Club Work.

Instruction in various phases of Home Economics is being given to girls in Alberta by means of the Girls' Club programme, under the supervision of Margaret K. Fraser. It has been found that the programme is filling a very definite need among these 'teen age girls, especially in rural areas. Besides teaching the girls improved methods of home making, they also are encouraged in leadership, community life and co-operation.

This year, 87 girls' clubs with an average membership of 16 carried out home making project. Twenty of these were garden clubs sponsored jointly by the Department of Agriculture and the Alberta Wheat Pool.

Outlines of the study material are provided for each club, giving them a basis for study and instruction in their work. Projects now offered consist of Good Grooming, Clothing, Etiquette, Home Decoration, Foods and Gardening. A new project of Home Beautification has been added this year and is proving popular.

The District Home Economists help with the supervision of the girls' clubs in their district. This gives better results as far as the girls are concerned, and is of value to the leaders.

The Annual Girls' Club Week was held at the School of Agriculture at Olds with 74 efficiency winners and a number of delegates from the clubs in attendance. A programme of lectures, demonstration, sports and social activities was presented. A display was set up by the clubs of the work done during the year. These

short courses are proving helpful in training the girls and encouraging club work.

A \$75 scholarship, donated from the Wheat Board Money's Trust Fund, was awarded to the most outstanding club girl in attendance at the Club Week. The award in 1945 went to Marguerite Baker of Erskine with Glena Davies of Carmangay second.

Field days, held jointly with the Junior Farm Clubs, were held in the Stettler and Brooks districts this year, and were an excellent means of getting the young people together. The programme consisted of talks, educational films and judging competitions, as well as inter-club ball games and other social functions. It is hoped that more of these will be held in the future.

The Canadian Council on Girls' and Boys' Club Work have decided to include Clothing Projects for girls in the National Competition. Forty clubs under way this year all should be eligible to enter teams in the Provincial Competitions for this National Competition.

Farm Girls' Camps were held at the Red Deer and Vegreville "B" class fairs this year with a total attendance of 53. Instruction at these camps was provided by this Department. Stress was placed on judging and exhibiting at fairs in an attempt to raise standards in foods and clothing in the homes and for exhibition purposes. The Red Deer Fair Board donated \$100 as prize money. Twenty dollars of this was divided into small prizes and the remainder presented as four scholarships to Girls' Club Week at the Olds School of Agriculture. These scholarships will be used in 1946.

During the last four years the Girls' Club work has advanced slowly. Because of unsettled wartime conditions it was difficult in many districts to hold a club together for the year. The trend was for movement of girls from the rural areas to the cities and larger towns. This also influenced the age group available for club work, reducing the average age to 16. It is expected that from now on the average age of club members will increase, and that there will be a greater demand for this work in rural areas to meet the needs of the girls remaining at home.

In areas having District Home Economists, the club work has advanced rapidly. They are able to keep closer contact with the clubs and to provide them with adequate help and instruction. As more District Home Economists are placed throughout the Province, there will be an advance in Girls' Club work.

The membership of a Girls' Club is necessarily low for three reasons:

1. Meetings are held every two weeks, and because of transportation problems it is necessary that the girls be close to the central meeting place.
2. Much individual instruction and help on the project material is given at each meeting, and it is impossible for the leaders to give this attention to a large number.
3. Not only are these clubs carrying out a home making project, but they are, in a sense, community clubs, and in order to develop the community spirit it is advisable that the membership cover a smaller area.

Lack of adequate leadership in districts is a great drawback to the success of Girls' Club work in the Province. Leaders and poten-

tial leaders should be brought together at central points for training courses which would enable them to carry on their work to better advantage.

Radio Talks and Notes for Home Makers.

This year 21 radio talks were given, and an attempt has been made to prepare short notes each week for the radio section of the Agricultural Notes. From the number of letters received in response to these talks and notes (from 50 to 400 each), we can feel assured of a large and interested listening audience. We also find we are reaching areas in the Province not easily contacted in other ways. Future talks are being planned in series, e.g., "Your Home" and "Getting Your Dollar's Worth When Buying".

Publications.

Two new bulletins, "Preserve by Freezing" and "Lunch Boxes and the Hot School Lunch" were published. Another bulletin, "Vegetables Make the Home Plate," is ready to be published. The leaflet, "Wild Rose Hips for Vitamin C", was revised to include information resulting from further experimental work.

Other mimeographed leaflets are: Saving and Using Fats in the Home; Best Dishes for a Merry Xmas; Diet for Pre-School Child; Bee-Wise—Use Honey; Food Guide in Correcting Overweight; Directions for Making Slippers.

Several other leaflets were revised to meet changes in rationing and supplies.

It is estimated that approximately 68,400 bulletins and leaflets, and 9,600 Dominion bulletins were distributed by this Branch during 1945.

District Home Economists:

This year there have been six permanent and three temporary District Home Economist offices. The location and personnel follow:

Permanent: Lethbridge, Miss La Prile Low; Calgary, Miss Norma Hogg; Red Deer, Miss Edna Alford (transferred), Miss Beatrice Anderson (appointed October 1); Stettler, Miss Esther Anderson (transferred), Miss Priscilla Mewha (appointed October 1st); Willingdon, Miss Rose Faryna; Westlock, Miss June Thomson (resigned).

Temporary (May to September): Camrose, Miss Ruth Whaley; St. Paul, Vermilion and Edmonton, Miss C. McIntyre; Olds, Miss E. Switzer.

Two new appointments were made: Miss Priscilla Mewha for Stettler to replace Miss Esther Anderson, who was transferred to instruct at the Vermilion School of Agriculture, and Miss Beatrice Anderson for Red Deer to replace Miss Edna Alford, who was transferred to instruct at the Olds School of Agriculture. Miss June Thomson was appointed as District Home Economist at Westlock, but later resigned to be married. In addition, three Home Economists were employed for the summer months.

The District Home Economists report many expressions of approval and appreciation of this service from organizations and home makers in their district. They also report that they cannot adequately serve the area assigned due to the many demands for their services. Related to this problem is that of transportation.

If cars were used, much time spent in non-productive travel could be saved, and the work could be planned to better advantage.

Requests for assistance through home visits are increasing, as it is in the home where the District Home Economist can best give practical assistance with individual problems. A special effort is being made by the District Home Economists to visit war brides, most of whom are living on farms for the first time. As veterans now returning settle on farm lands, it is obvious that their wives should be given encouragement and advice with rural home making problems. Again, however, without cars this service is limited.

During the fall and winter months the Home Economists have continued with the promotion of the School Lunch Programme—visiting and assisting in many rural and town schools with the establishment of a hot school lunch. School dormitories are given detailed advice on equipment, buying of food supplies, menus, recipes, etc.

The District Home Economists supervise the Girls' Clubs in their districts, providing special instruction in the projects being studied. Several meetings have been held for local club leaders, and these are proving very valuable to club work.

Each month the District Home Economists send News letters to the women's groups in their districts suggesting club programmes, and giving suggestions in solving timely problems. The response to these News letters has been good, and the Home Economists report many requests for their continuance.

One District Home Economist assisted at the Brooks Horticultural Station in testing varieties suitable for canning and freezing. This work has resulted in some very useful information regarding local varieties of fruit and vegetables.

Every attempt is being made to use the Home Economists' time to assist home makers in the most practical way possible, through demonstrations, home makers' clinics, and home visits. Another plan for the coming year is to organize local groups to undertake projects which will help them with their own special problems and improve their living conditions.

While working on local needs and problems, this Branch does not lose sight of the broader concept of its work. The basic objective of Women's Extension is "Better Home Living," which will make the home a healthier, happier and more satisfying place in which to live and also a stronger force in promoting the well-being of the community.

SUMMARY OF ACTIVITIES OF WOMEN'S EXTENSION

	1941	1942	1943	1944	1945
No. of demonstrations	282	268	461	557	990
Attendance	6,292	8,272	14,454	19,317	34,388
Average attendance	26	31	31.4	34.6	34.7
Field days and short courses, etc.	24	28	33	57	129
Judging at fairs	13	6	9	20	23
Radio talks	4	5	10	28	21
Publications distributed		26,850	45,105	62,000	68,400
Letters requesting information		1,700	1,855	1,786	6,663
Home visits	188	135	267	621	911
Girls' clubs	70	83	85	85	87

FARM LABOUR

The farm labour situation in 1945 was as acute as in any year during the war. The cessation of hostilities did not materially affect the supply until late fall. Notwithstanding the shortage of

help, farmers were able to carry on their activities, and by their hard work and ingenuity met the problems as they arose.

The Dominion-Provincial Farm Labour Agreement was operated on practically the same basis as in 1944. Although investigations of men seeking postponement ceased when the war ended, there was an increase in the number of investigations required for men seeking to leave the Services. The field organization of District Agriculturists and local labour representatives during the fall was continued. The main activities carried on were:

1.—*Placement of Labour.*

Orders for 2,900 farm workers were received by the Farm Labour Service, and 5,900 men were placed, including about 4,000 harvesters. Two critical periods occurred, one at the commencement of spring work, and the second at harvest time. The needs of the farmers were, however, reasonably well met.

2.—*Western Farm Workers.*

During the latter part of June and early July the Farm Labour Service, at the request of National Selective Service, recruited 380 Alberta farm workers, who were sent to Ontario to assist with haying and early harvest. These men were required to remain in Ontario until August 15th to become eligible for the special \$5.00 return fare; their transportation to Ontario was provided by the Department of Labour. Those forwarded were selected by the District Agriculturists, and from reports received were entirely satisfactory.

3.—*British Columbia Fruit Pickers.*

The Farm Labour Service assisted National Selective Service in recruiting 234 women and girls for fruit picking in British Columbia. Transportation was furnished to B.C. points, and the workers were granted a special reduced fare of \$5.00 for the return journey providing they spent a minimum of six weeks in the province.

4.—*Eastern Harvesters.*

A total of 1,270 harvesters from Ontario and Quebec were forwarded to Alberta between August 16th and September 15th for the purpose of helping with the harvest. These men received transportation to central distributing points in Alberta, from which they were redistributed by the Farm Labour Service. The harvesters returned between the 22nd of October and the 30th of November at a reduced fare of \$10.00 each. Due to the harvesting conditions in Manitoba and Saskatchewan, it was possible to re-forward only a small body of harvesters from Winnipeg. The eastern workers were generally highly satisfactory.

5.—*Assistance from Armed Services.*

Once again the Armed Services aided the harvest. The greatest measure of help was supplied by personnel who were granted harvest leave. No definite figures are available, but the number would exceed 2,500 men.

For placement on a modified farm duty plan, 182 army personnel were assigned to the Farm Labour Service.

Army and Air Force camps co-operated splendidly in granting short leaves to personnel to aid farmers in the districts close to the camps.

6.—*Local Harvest Help.*

Approximately 300 harvest hands from the south-eastern part of the Province were given transportation to districts farther north when they had harvested their own short crops. Many others moved by car, but no record is available of the number. Some assistance was given by town and city people, but on account of a relatively short crop in most districts the demand was not urgent.

7.—*Prisoners of War.*

Prisoners of war again furnished farm help under two plans. About 430 prisoners worked on individual farms in the Brooks, Strathmore, Medicine Hat and Lethbridge districts. These men were responsible to the farmer, who paid the Department of Labour a monthly wage for their services. These prisoners were in effect hired men.

The second plan which operated in the Lethbridge district involved a much larger number of prisoners, who were employed on sugar beet and vegetable producing farms. These prisoners worked under guard, and the farmers employing them paid for their services on a contract basis. It has been estimated that approximately 15% of the labour required in the sugar beet producing area was provided by prisoner labour. At the peak of the season almost 1,500 prisoners were being employed.

8.—*Movement of Harvest Equipment.*

Assistance in the form of one-way transportation charges was provided for twelve harvesting outfits which moved from the south to heavier crop areas in the north. Because crops were shorter in the north this year, the need for extra help was not acute.

Approval was given this year to the movement of five harvesting units from Alberta into Montana and other northern States. This movement occurred under a special Canadian-United States reciprocal agreement.

9.—*Investigations.*

The activities of the War Mobilization Board practically ceased when the war ended and the call-up system was discontinued. The Farm Labour Service, however, made 2,728 investigations for the Board.

Prior to the Board being disbanded a special Farm Labour Survey Committee was set up by the Department of Labour for the purpose of securing as much assistance as possible from the Armed Services. This committee assisted farmers to secure leaves or releases for sons or farm workers, and assisted the Services in determining whether or not certain applications for leaves or discharges should be granted. The committee reviewed about 1,200 applications.

The Farm Labour Service continued its assistance to the Alternative Service officer, and helped in placing conscientious objectors on farms where their services were most required. There were 229 reports made regarding conscientious objectors.

10.—*Recruiting Men for Alberta Industries.*

The general labour situation improved so much toward fall that little demand arose to use the Farm Labour Service to recruit men

for mines, woods, etc. Many farm workers came forward to accept jobs in these industries of their own volition, and no organized recruiting campaign was undertaken.

HISTORICAL REVIEW OF FARM LABOUR

With the termination of the current Dominion-Provincial Farm Labour Agreement on March 31st, 1946, certain phases of an important wartime activity which was assumed by the Department of Agriculture will be brought to an end. Because the problem of farm labour was attacked on a co-operative basis by the Dominion Department of Labour and the Alberta Department of Agriculture, it is desirable at this time to place on record certain aspects of the relationship which developed and some of the more important achievements.

During the summer of 1942, the Minister of Labour for Canada invited the governments of the respective provinces to enter into a joint agreement with the Dominion Department of Labour to assure to the farmers of Canada a supply of farm labour adequate to meet the production requirements of the Dominion's agricultural war effort.

Recognizing that, the providing of farm labour was as important to the production campaign as was feed, seed, equipment and other necessities, the Alberta Department of Agriculture accepted the invitation of the Minister of Labour and signed an agreement in September, 1942, under which certain activities were to be carried on to assist in meeting the farm labour situation.

The first agreement, covering the period from September, 1942, to March 31st, 1943, provided that funds be subscribed by the Dominion Department of Labour and the Department of Agriculture on a fifty-fifty basis to provide for the recruiting, transportation and placing on farms of farm labourers. Provision was made for the employment of necessary office and field staff and for other expenditures. The Alberta Dominion-Provincial Farm Labour Service thus came into being and became an activity of the Agricultural Extension Service. A Farm Labour Committee representing the Dominion Department of Labour, the Alberta Department of Agriculture, and farmers' organizations, was established to deal with the broad policies of the Labour Service, while the actual work involved became the responsibility of the staff of the Extension Service.

Organization.

At the beginning of the programme a field staff of 11 Farm Labour Supervisors was appointed to deal with labour matters. These Supervisors were stationed with District Agriculturists in areas where farm labour was a more serious problem, while elsewhere the District Agriculturists handled the duties along with their regular work.

It became apparent that the Farm Labour problem was such an integral part of the production programme that it would be better to increase the number of District Agriculturists and allow each man to handle the farm labour programme along with his regular work. This plan was also considered advisable due to the restrictions on travel imposed by gasoline and tire rationing. Thus in April, 1943, a new agreement was signed which provided that the District Agriculturist staff be increased and revised to include the

permanent District Agriculturists in the field staff. This plan was continued throughout all subsequent agreements.

In addition to the field staff, a Farm for Victory programme was initiated in 1943 by the Department of Agriculture in co-operation with farm organizations. The Province was divided into 28 zones, and these into sub-districts, in each of which there was a Farm for Victory Committee. Although these committees were organized to increase production and to assist local people to meet the wartime problems of agriculture, they also undertook to aid the District Agriculturists with the farm labour problem. Most communities named one or more local labour representatives who acted as a clearing house for local labour, and who assisted the District Agriculturist with any activities which were undertaken to meet the labour needs. Many of the committees and local labour representatives gave valuable assistance to the whole production programme. It was noted, however, that guidance, leadership and suggestions are required by most local organizations of this kind.

Activities.

One of the first jobs attempted under the labour programme was to determine the actual situation. A survey of farm labour needs was made, which indicated that there were peak seasons of demand and that the labour force on farms was considerably diminished. The major job of the labour service was then determined as one of securing labour and of having it perform efficiently.

An arrangement was worked out whereby the War Mobilization Board would report for investigation to the Farm Labour Service, cases of men who claimed postponement from military service on the grounds of being essential to agriculture. The information thus obtained was used by the Board to determine whether or not the man would be granted postponement. In many cases temporary postponement was granted, providing that steps were taken to increase production on that farm, or providing the postponee offered his services and kept himself fully employed on other farms. This system increased the efficiency of the labour available, and provided a pool of farm labour to meet emergencies. A total of 9,707 reports were made for the Mobilization Board.

In addition to investigations for the Mobilization Board, the Farm Labour Service made inspections of 914 conscientious objectors for the Alternative Service officer, and investigated the activities of 4,606 farmers who were rejected for military service. The original labour survey accounted for another 7,364 reports, making a grand total of 22,591 reports during the period from September, 1942, to December 31, 1945. In addition to these reports, the Farm Labour Service was given the names of 22,000 postponees, many of whom were checked.

Closely connected with the efficiency of labour was the programme to improve the use of equipment. The co-operative use of machinery in short supply was encouraged, and a campaign was undertaken to conserve all equipment by proper care, repair and management.

Publicity was given to labour saving devices, especially a stook sweep which, when mounted on a tractor, could displace several men on a threshing outfit. A short course was held at the Olds School of Agriculture in 1943 to instruct blacksmiths in the con-

struction of sweeps. Plans were prepared and distributed, and by arrangement with Implement Parts Distributors, Department of Trade and Industry, sets of iron required for the sweeps were made available.

Among the activities to increase production and obtain efficiency of labour was a plan to encourage farmers on small acreages to extend their holdings or to accept employment on large farms where production was restricted by a labour shortage. No worth-while results were secured from the latter.

At the request of the Farm Labour Committee and the farmers' organizations, the opening of Alberta schools was delayed until October 10th in 1943, and the 1944 holiday period did not commence until July 15th. A similar arrangement remained in effect until 1945. By this plan a large body of high school boys were available for farm work during the peak harvest period. A scheme to train urban boys for farm work in 1943 failed because of a lack of trainees and because farmers themselves were not enthusiastic toward the employment of young, inexperienced help.

An important activity which met the harvest labour shortage was the revival of harvest excursions. These had been in vogue in the 'twenties, with the last one in 1928. In 1942, about 2,000 harvesters from Ontario and Quebec were sent to Alberta to harvest. The Dominion Department of Labour provided transportation to the West, and the harvesters were returned upon payment of a reduced fare of \$10.00. Excursions were arranged each fall from 1942 to 1945 inclusive. The total number of harvesters sent to Alberta in the four seasons numbered 6,690. The help from this source was most gratefully received, and solved what might otherwise have been a serious situation. Experience showed that careful selection of the men at the point of origin was desirable.

During the summers of 1944 and 1945 the Farm Labour Service recruited and sent to Ontario a number of men to help Ontario farmers with haying and early harvest. A similar movement involving women and girls was organized each summer from 1943 to 1945 to provide fruit pickers for British Columbia farmers.

Many other minor activities were undertaken as well. Assistance was provided in placing conscientious objectors on farms with a high labour priority. Prisoners of war became available in 1943, and some assistance was given by the Farm Labour Service to the officials in charge of this policy. A policy to assist combines to move from areas where they were not needed to districts requiring help was operated in 1943, 1944 and 1945.

The recruiting of farm workers for other essential industries during the slack winter period was carried on each winter. It is estimated that about 5,000 men left the farm each winter to take employment in the mines, forest, packing plants, and other essential industries. Because of the close relationship of some of these industries to agricultural production, farmers co-operated readily by offering their services.

An outstanding feature of this period was the tremendous increase in production with smaller number of workers and limited new equipment. Phenomenal increase of swine, poultry, cheese, butter and other products took place. Longer hours, better management and organization, and in some cases favourable climatic factors were perhaps the main factors which contributed to the

situation. The Farm Labour Service adopted the policy of keeping farmers advised of the labour situation. The best of co-operation was secured, not only from the farmers' organizations, but from individual farmers as well. The radio and press were used extensively during the most critical periods to discuss with farmers the problems of the day.

It must be recorded in terminating this report that the principle of dealing with the farm labour programme on a co-operative basis has been eminently satisfactory. It is doubtful if, under the circumstances, a more effective method could have been devised to serve the farmers of the Province. Although the programmes were carried out under the stress of war and all agencies aimed at a common goal, it suggests that the same principle of co-operation might well be applied to the solution of peace-time problems in which a Federal and a Provincial Department are concerned.

Much of the success of the farm labour programme has been due to the excellent co-operation which prevailed on the part of officials of the Unemployment Insurance Commission, National Selective Service, and other divisions of the Dominion Department of Labour.

DISTRICT AGRICULTURIST SERVICE

W. S. Scarth, Supervisor of District Agriculturists, reports that the District Agriculturist staff was increased from 30 to 32 men during the year, and new offices were opened at Morinville, Strathmore, and Spirit River.

The District Agriculturist Service continued with all its main activities, although the cessation of hostilities relieved the men of the extra work required in making investigations for the Mobilization Board. All indications point to a revival of interest in Junior Club work, and there are many other branches of extension activity that have been affected by war production problems which can now receive the attention they require.

It should be realized that the field staff has of necessity been required to continue using old cars for travelling, and many of them are really beyond the serviceable stage. Special mention should be made of the District Agriculturists in the Peace River area, who carried on their summer programme in addition to inspecting and measuring 720 dugouts under the regulations of the Farm Water Supply Policy.

The organization of a number of Agricultural Service Boards in Municipal Districts has been another new activity for the field staff. It is hoped that this co-operation between the Department and Municipal authority will add to the effectiveness of any extension programmes that may be undertaken.

The following staff changes are reported for the year:

G. R. Sterling appointed as District Agriculturist at Bentley, March 1st, to replace A. W. Lampitt, who resigned.

J. M. Fontaine, formerly District Agriculturist at St. Paul, transferred to Morinville, May 1st.

P. Gibeau, Assistant at St. Paul, took over the St. Paul office.

A. W. Hill appointed Assistant District Agriculturist at Lethbridge, replacing J. F. Carmichael, who resigned June 1st.

R. J. Milligan, formerly District Agriculturist at Lethbridge, discharged from the armed forces, appointed to open new office at Strathmore, August 1st.

C. G. Anderson appointed District Agriculturist at Claresholm on August 10th, replacing L. H. Perry, who resigned.

G. G. Golberg, formerly District Agriculturist at Athabasca, discharged from armed forces, appointed to Camrose office August 7th, replacing J. L. Kerns, who went to Vermilion Agricultural School as Farm Manager and Instructor in Animal Husbandry.

J. L. Anderson appointed District Agriculturist at Medicine Hat, August 20th, replacing J. W. Taylor, who resigned.

F. H. Newcombe, formerly District Agriculturist at Red Deer, discharged from armed forces, appointed to Edmonton office September 10th, to replace F. N. Miller, appointed Supervisor of Junior Clubs.

G. W. Shewchuk, who worked as District Agriculturist at Lac La Biche during the summer, was appointed to open a new office at Spirit River on December 3rd.

O. G. Bratvold, transferred from the Berwyn to the Red Deer office to replace J. E. Birdsall, appointed Supervisor of Crop Improvement Service.

J. S. Robblee was appointed Assistant District Agriculturist at Lethbridge on December 17th.

H. H. Michael, a graduate of the University of Saskatchewan and discharged from the armed forces, was appointed District Agriculturist at Berwyn.

District Agriculturist Offices.

Athabasca, G. L. Godel; Bentley, G. R. Sterling; Berwyn, H. H. Michael; Brooks, Ira Lapp; Calgary (Old Court House), B. J. Whitbread; Camrose, G. G. Golberg; Cardston, W. R. Hanson; Claresholm, C. G. Anderson; Drumheller, N. F. Bell; Edmonton (Court House), F. H. Newcombe; Falher, Laurent Gareau; Grande Prairie, J. T. Stranatka; Hughenden, T. W. Townley-Smith; Lethbridge (Court House), S. S. Graham, J. S. Robblee (Assistant); Medicine Hat (Court House), J. L. Anderson; Morinville, J. M. Fontaine; Olds (School of Agriculture), Hugh McPhail; Ponoka, I. A. Coles; Red Deer, O. G. Bratvold; Ryley, W. A. Moisey; Sangudo, L. H. Peacock; Smoky Lake, M. D. Shemeluck; Spirit River, G. W. Shewchuk; Stettler, R. D. Price; Strathmore, R. J. Milligan; St. Paul, Paul Gibeau; Thorsby, Thos. Kilduff; Vegreville, W. N. Pidruchney; Vermilion, E. H. Buckingham; Westlock, E. G. Wood; Willingdon, Fred Magera.

Cereal and Forage Seed Production.

The District offices have given considerable assistance to plans for improving both cereal and forage seed production. In the northern and central section of the Province, reports indicate that there is a steady increase in the use of Titan barley and Eagle oats. District offices have handled a great many individual orders for registered and certified seed, and in addition to this service, have directed farmers to pure seed supplies within their own district. Another activity to encourage interest in pure seed has been the establishment of small demonstration plots at several points in each district. These contain varieties recommended for the zone, and in

a number of cases the plots have been supplemented by the use of a fertilizer demonstration both on cereals and legumes.

While all district seed cleaners apparently operated to capacity, there is a definite need for more of this equipment.

Legume seed production, particularly alfalfa and alsike, is now assuming the importance of a major revenue producer in many sections of the north central and northern areas. The average yield of legumes in this section of the Province is estimated by our office reports as 280 pounds per acre. Some excellent seed crops were harvested in the St. Paul, Westlock, Athabasca and Peace River districts. Much of this seed acreage traces its origin to the earlier forage crop policies initiated by the Field Crops Branch, when limited amounts of seed were supplied at reduced prices. The matter of more efficient harvesting methods to prevent losses needs attention, as well as a definite programme of weed control in seed producing areas. There is a very real danger that legume seed growers will become careless of weed infestation and suffer the same fate as many cereal seed growers have.

Forage Seed Distribution Policy.

Assistance with the appointments of agents and distribution of seed through the Forage Seed Distribution Policy has been one of the main activities of the service during the winter and spring season. The general plan was for the District Agriculturist to select several reliable men strategically located in his district to act as distributing agents. At these points farmers could conveniently place their orders and take delivery of their seed. This convenience of ordering and taking delivery appeals to farmers, particularly those in isolated districts, and the benefits of the Policy are evidenced by the steady increase in seed deliveries each year. In some cases the bulk of the orders were handled through the District office, and this provided an excellent opportunity to contact and advise farmers as to the best methods of handling the seed to secure satisfactory results. In many districts, meetings were held at the time of seed delivery, when proper seeding methods and subsequent care of the crop were discussed with farm groups. Reports indicate that this year 197 agents operated under the Policy, and a total of 554,800 pounds of legume and grass seed were distributed by District Agriculturists and appointed agents.

Irrigation and Special Crops.

These are confined almost entirely to the Brooks and Lethbridge districts, although there is a limited acreage indicated in the Strathmore district. Brooks estimates approximately 7,000 acres were sown to peas, but there was a heavy loss from hail in this district. About 1,500 acres of potatoes were planted in the Brooks district, with an average yield of seven tons per acre. In addition, radish, beet and spinach seed was produced.

The Lethbridge area again provided over half of the total beet sugar produced in Canada, with over 30,000 acres and an average yield per acre of 11.97 tons. The canning factories at Lethbridge and Taber handled 4,925 acres of corn and peas. There was a marked increase in the marketing of green vegetables. Potato yields were higher than 1944, with an excellent market. Cucumbers are being processed for pickles at Taber, with a total of 425 tons being handled this year.

Weed Control and Soil Conservation.

While weed control measures are primarily a responsibility of municipal authority, the District Agriculturist service is giving considerable time in co-operative effort. In most cases this is directed through the Agricultural Service Board. Assistance in establishing weed control demonstrations and visiting farms where some particular weed problem is present, requires a knowledge of local conditions and practical application of sound control methods. It is now realized by all those who have been concerned with weed control measures that the only way to make progress is to set up a definite programme in each municipal unit. The District Agriculturists have given assistance in outlining district control programmes in co-operation with Service Boards and municipal field supervisors. Plans are well advanced in a number of Municipal Districts for the systematic seeding down of road allowances and ditches.

It is encouraging to note the increased interest in soil conservation practices are reported by the District Agriculturists. There appears to be a more general realization of the urgent necessity of adopting conservation methods. This is indicated by the general demand for speakers to discuss this topic at meetings and short courses, and for information through the District offices. In September a two-day Conference at Lethbridge, attended by District Agriculturists from the area south of Drumheller, and arranged in co-operation with the Field Crops Branch and the staff of the Lethbridge Experimental Farm, met to discuss soil drifting control measures. Practical methods available to every farmer were demonstrated in the field. The dry condition of large areas of summer fallow this fall indicated that there was a very definite risk of disastrous losses by drifting, but the early snow fall appears to have prevented much of this. However, reports from the Peace River district, where moisture supplies have been below normal for several seasons, indicate some very serious soil drifting during October. The District offices in the Peace River have distributed considerable material dealing with soil erosion, and have given assistance in general control methods.

Live Stock Production and Sire Improvement Policies.

All districts report continued reduction in swine holdings, estimates varying from 30% to 70%. Despite this fact, there appeared to be a steady demand throughout the season for breeding stock. While hogs were reduced, practically all districts report an increase in cattle. The dry summer in the northern areas resulted in very poor pastures and reduced feed crops, and all districts north and east of Edmonton report a fodder shortage. In some areas cattle population has been materially reduced through early marketings. While southern districts report sufficient feed supplies, the early snow fall prevented the full use of cover crops for feeding, and indications are that large numbers of under-finished feeders were marketed before December 1st.

District reports indicate that farmers continue to take advantage of the Department's Pure-bred Sire Improvement Policies. Figures show an increased demand, particularly for bulls through the Bull Exchange plan. District offices report placing 330 bulls through this policy during the year. In addition to this, 224 other bulls were placed by contacts made through the service. Despite the fact that

swine holdings have been steadily reduced through the year, 187 boars were distributed through the Boar Improvement Policy and an additional 17 through office contacts. The Sow Distribution Policy placed 74 selected gilts, and the offices placed 242 additional sows and gilts, a large number of these being pure-bred. Although sheep production appears to be down in the northern section of the Province, 25 rams were distributed through the Improvement Policy and 65 others by office arrangements with farmers.

Warble Fly Control.

For the last five years the District Agriculturists have given considerable assistance to the organization of Warble Fly control campaigns in their districts. In several of the southern districts this has been one of the main activities during the spring months. The ranch areas are now fairly well organized, and the treatment of large herds has been speeded up by the use of power spraying machines. In the northern areas few power sprayers are available, but despite this handicap, a great many cattle were treated by hand. It is estimated that approximately one-half the total cattle population of the Province was treated for warble control last spring.

Dairy and Poultry Production.

District reports indicate that in the eastern sections and Peace River area dairy production dropped off very considerably during the early summer due to poor pasture conditions. Feed shortage for the winter would appear to limit any expansion in these areas. The central area reported a better than average season. Our offices have supplied a great deal of information on improved housing for dairy cattle, better ventilation, and more sanitary milk sheds. Farmers have been improving their buildings wherever material was available.

There appears to be no definite change in poultry production when looking over province wide reports. It is worthy of special note that the first commercial hatchery for the Peace River area opened at Grande Prairie this spring. Reports indicate that it was well patronized. District offices have assisted local poultry keepers at meetings and with a large amount of information on diseases, improved poultry houses, pens and general poultry equipment.

Beekeeping.

District offices continue to receive many personal calls and mail enquiries regarding beekeeping practices and management. Thirty special field days and meetings for beekeepers were arranged by the District Agriculturists this summer. At these gatherings either the Provincial Apiarist or one of his field staff was present to discuss local problems and suggest improved management methods. Records show that there were 47 local beekeepers' associations active in Alberta this year. In many cases the District offices acted as distribution points for package bees and bee supplies. Assistance has been given to organization of local associations.

Junior Farm Clubs.

Of necessity, Junior Farm Club activities have had to be limited during the war years when other production and farm labour programmes had to be given priority. This does not mean, however, that club work was dropped or neglected. In fact, there was a healthy increase in some districts, and a steady interest shown by

members already enrolled. Beef Calf Feeding Clubs still appear to hold the major interest, now taking the place that Junior Swine Clubs held in many communities at the time Live Stock Clubs were starting. The District Agriculturist has a very vital part to play in every club organized in his territory. While the local leadership is, of course, very important, the final responsibility of keeping the club an active group practically always depends on the time our District men can allot to the club programme. Reports from our District Agriculturists show that 71 Crop Clubs were in operation with a total membership of 1,199. Crop Clubs are made up of the regular cereal projects, and include forage crop and potato projects. Live Stock Clubs, consisting of beef feeding, swine and dairy projects, totalled 69 with a membership of 1,409. Five Poultry Clubs were in operation with a membership of 67. All indications point to a considerable increase in club work for the coming year.

Youth Training—Farm Repair Schools.

These courses were continued during the winter, and interest was maintained at every point where they were held. In fact, there were considerably more applications for these schools than could be given proper attention by the limited staff. The District Agriculturists report very favourably on this type of school. The trainees concentrate on the repair of farm implements, tractors and gas engines during a three week period. The District Agriculturist undertook the general organization of the school, made arrangements for the workshop and assisted wherever possible. The popularity of these schools is indicated by numerous advance requests for more of them in 1946. Eight schools were held with a total attendance of 125.

Extension Meetings, Short Courses and Field Days.

Special mention is made of these activities in another section of the Annual Report, and statistical summaries indicate the number of these events held in the Province during the year. This type of gathering remains the most important for dissemination of information for the farm and farm home. Local arrangements are the responsibility of the District Agriculturist, who generally plans the programme in co-operation with some local farm or community organization. Specialists for the discussion of current agricultural problems are provided from head office in most cases, but special mention should be made here of the valuable assistance given by the University of Alberta and the various branches of the Federal Department of Agriculture in providing speakers at various times throughout the year. With the lifting of restrictions on gas and tires and the gradual replacement of cars, it is hoped that rural people will be able to take greater advantage of the services offered at meetings and field days.

Agricultural Service Boards.

There is every indication that the passing of The Agricultural Service Board Act in the spring of 1945 will mark a very definite change in the whole relationship between our field service and the municipal government. For the first time since the District Agriculturist service was set up, the opportunity is provided for the Municipal Unit to co-operate very closely in securing the full benefit of Departmental policies. The expenditure of moneys is authorized for approved projects of weed control, soil conservation and for the

general improvement of rural living, with the Service Board in the position of a planning and directing body. This year the main activity of the boards was centered on a weed control programme, with the appointment of a full time field supervisor as the first step towards organized action against the weed menace. Sixteen Service Boards were officially appointed during the year, and the District Agriculturist is the representative of the Department on each board in his territory.

Farm Water Supply Assistance.

The Peace River District Farm Water Supply Assistance Policy was introduced in May for the purpose of providing assistance to farmers in certain sections of the Peace River area where it is very difficult to secure adequate water supplies. In these sections the excavation of dugout reservoirs has been found to be the most practical method of storing the seasonal run-off of surface water. A large live stock population had been built up during the war years, and the water supply situation became critical following several seasons of less than average rain fall and light snow fall. In many districts farmers were hauling water eight to twelve miles, and under such handicaps the general reduction of all live stock holdings was inevitable.

The basis of assistance was in the form of a subsidy of five cents per cubic yard of earth excavated in the construction of a dugout reservoir, with maximum assistance payable to any one farm unit being limited to \$100.00. Applications were made to the District Agriculturist and, if requested, he assisted the farmer to decide on a suitable site for the dugout. The farmer made his own arrangements with a contractor for the excavation. When the job was completed it was inspected and measured by the District Agriculturist. If the dugout met the required specifications, a certificate was forwarded to the Department showing details of size, etc., and payment was made to the farmer.

As much information as possible was supplied to farmers regarding the proper location and design of dugouts, protecting the water supply from pollution, and installing filters and seepage wells adjacent to the reservoir. Many farmers find it necessary to secure their domestic needs as well as live stock supply from the dugout, and for that reason every precaution must be taken to prevent pollution of the water. Another danger in the Peace River area is the damage to dugout reservoirs by erosion. In a few years the tramping of live stock and subsequent silting up of the storage basis may reduce effective capacity by 50%. It is encouraging to note that a large number of the dugouts excavated under the policy will be properly protected by seeding down the edges to grass and planting with shrubbery and trees.

The district was fortunate in having a season of favourable weather for excavation work, and a sufficient number of contractors with power equipment to handle the requests. Activities commenced in May, but did not reach a peak until the late summer. Work continued throughout the fall until about December 1st. The work of inspecting and measuring the projects took up the bulk of the time of the District offices, and there were still a number of dugouts to be inspected when excavation work stopped for winter. The Grande Prairie district presented special difficulty due to the fact that the areas where dugouts were being constructed were

scattered over a very large territory. At the close of the year the District office records show that a total of 720 inspections were completed. The average capacity of all dugouts inspected so far is slightly over 1,800 cubic yards. This includes 194 projects excavated last year. A special provision of the policy provided for payment of subsidy on 1944 dugouts that came up to specification. This indicates that farmers have realized the wisdom of making a large reservoir with a view to providing for a reasonably safe and permanent water supply.

SUMMARY OF DISTRICT AGRICULTURIST ACTIVITIES

	1943	1944	1945
Number of offices	27	28	31
Number of District Agriculturists	28	30	32
Number of meetings held	1,224	1,200	1,444
Total attendance	49,979	58,400	79,463
Average attendance	41	49	55
Number of farms visited	17,111	17,850	18,207
Number of office interviews	22,971	33,898	36,045
Number of letters written	30,688	35,105	31,853
Number of bulletins distributed	89,428	62,071	91,646
Number of telephone calls	18,487	26,556	27,289

REPORT OF PROVINCIAL VETERINARIAN

(DR. P. R. TALBOT)

The following are the duties performed by the Provincial Veterinarian:

1. Assistance to farmers living in districts in which no qualified veterinarian is located.
2. Prevention and control of live stock diseases which do not come under The Animal Contagious Diseases Act of the Dominion Government.
3. Supervision of the health of live stock at all Provincial Government institutions.
4. Educational work relating to diseases of live stock.
5. Administration of The Stallion Enrolment Act.

Requests for assistance from areas where there is no qualified veterinarian continue to increase. This adds emphasis to the need for some inducement to encourage veterinarians to locate in these rural areas. To aid in meeting these requests and to prevent duplication of work, Dr. Ross Walton has been transferred to this branch as assistant to the Provincial Veterinarian.

To help alleviate the need for more practising veterinarians, the Department is offering financial assistance to students who desire to attend the Ontario Veterinary College, with the hope that these men will return after graduation and establish a practise in Alberta. However, competition for these men will be keen, and as heretofore rural practise in Alberta has not been too profitable, it is necessary that these men be guaranteed an income if we wish to compete for their services with other provinces and countries.

To obtain the assistance referred to, the student must be a resident of the Province for three years prior to enrolment at the Ontario Veterinary College. The three year resident clause does not apply to applicants who have served in the armed forces, though they must, of course, have been a resident of the Province prior to enlistment. Should a student fail to pass any year's examination and retake the lost term, the assistance will apply to one year only. At the successful completion of each year at the college, the student will be reimbursed by the Department to the extent of \$200.00.

In addition to the above, the following scholarships are offered:

1. When there are three or more students enrolled for the Province, the Department will provide a scholarship of \$100.00 to the Alberta student who obtains the highest general standing.
2. A general proficiency scholarship of \$100.00 will be provided any student enrolled from Alberta who obtains the highest general standing for the whole class in any one year.

To qualify for the scholarships under (1) and (2), the standing obtained by the student must be at least 75 per cent.

In the 1945-46 term, 12 students from Alberta are enrolled at the college. Four more will start in January, 1946.

HORSE DISEASES

There were five suspected cases of Encephalomyelitis reported during the year. All were carefully investigated by this Branch. The affected animals were in one district, and the disease did not spread over a wide area. None of the animals showing symptoms of the disease had been vaccinated with Chick vaccine in 1945. All exposed horses were vaccinated as a precautionary measure, and the outbreak was quickly and satisfactorily controlled.

Considerable inconvenience to those shipping horses from this Province to British Columbia was experienced during the year. Before horses can be shipped into that province, permission has to be obtained from the Minister of Agriculture for British Columbia, and the horses must be vaccinated twice, seven to fourteen days apart, by a person acceptable to that province, and a certificate of vaccination must be attached to the shipping bill before the animal can be loaded. This is referred to in this report for the reason that there is an impression among some horsemen that this is an Alberta regulation, while as a matter of fact it is a British Columbia policy entirely.

We continue to receive reports from Northern Alberta of losses occurring as the result of Swamp Fever. This disease occurs mainly in areas of new settlement, particularly until the land is broken up, sloughs drained and methods of animal husbandry are improved.

CATTLE DISEASES

Hemorrhagic Septicemia.

Haemorrhagic Septicemia (Shipping Fever) remains the greatest hazard to the shipment of cattle, especially in the fall months. The fluctuating temperature of the weather at that time plays an important part in bringing on this disease. This, coupled with the sudden change of feed, the overcrowding in transit, lack of rest, feed and water, impose undue hardships on these animals, especially the younger ones.

This year outbreaks were not as extensive as in 1944. In this connection it is notable that winter set in early and the weather remained cold, thus chilling and heating was avoided. Also larger numbers of cattle owners are vaccinating their animals against this disease. These two factors probably account for the less extensive outbreaks.

Blackleg.

Blackleg continues to cause considerable loss, which is totally unwarranted. The liquid forms of blackleg inoculations are very effective in preventing this condition, and their wider use would stop losses from this source. The older pill form of vaccination is not as reliable, and should be discouraged. Cattle owners should realize the necessity of destroying the carcasses of animals which die of blackleg. The spores of the organism causing this disease may remain viable for many years, hence the carcass should be burnt.

Bang's Disease (Brucellosis).

The campaign to control this disease has been continued. The plan has been altered to make it optional with the owner whether or not he wishes to have the calves blood tested. Statistics and

experience tend to show that this is a sound procedure especially in the early stages of a brucellosis free programme.

In large ranch herds the gradual replacement of the adult cattle with vaccinated heifers will in time lead to the elimination of brucellosis. In the small farm and dairy herds where the animals are kept closely confined, the vaccination of calves should not preclude the application of sanitary measures especially when a cow aborts or calves. In the smaller herds the application of blood tests will speed up the elimination of brucellosis by detecting the reactors.

A serious drawback to the wider application of this programme is that vaccinated calves re-act to the blood test for some time, and while re-acting they are not eligible for export. For this reason many owners are not vaccinating. It would be desirable to have calves that are covered by a certificate of vaccination exported without a blood test.

In 1945, 2,205 calves were vaccinated, with applications on hand for approximately 1,000 more. This makes a total of 4,562 calves vaccinated during 1944 and 1945.

Urinary Calculi.

As reported in 1944, this condition had become more prevalent. However, it apparently has subsided again this year. Investigation has shown that this condition is most prevalent south of the 51st parallel. In the areas where the most losses occurred, the calculi were composed mostly of silica. The cause of this condition remains an unsolved problem.

As to the fewer cases during the current year, it is significant to note that the above mentioned area received a heavy precipitation during the year, which may have some bearing on the lowered incidence of this disease.

SWINE DISEASES

Swine Rhinitis.

Swine rhinitis caused a great deal of concern to swine raisers during the year. Because of its presence, swine classes were cancelled in all the summer fairs. Unfortunately, this is a disease about which little is known at present. Circumstantial evidence would indicate that this is an infectious disease and spreads from one animal to another. Many owners are of the opinion that the condition was introduced onto their premises by the introduction of breeding stock.

In order to supply prospective buyers with a list of herds which are free from this disease, all pure-bred breeders in the Province were contacted, and those applying had their herds inspected by a qualified veterinarian. Those passing inspection were given a certificate to that effect.

Under this policy, 131 herds were inspected, 11 of which were found to have the disease.

Losses in swine due to errors in feeding and management continue to run high, despite all educational efforts to counteract this. The reduction of swine numbers on many farms which has taken place during the year may partially alleviate the condition. The adoption of a system of pasture rotation on all farms would do a great deal towards cutting down losses from this cause.

SHEEP DISEASES

Sore mouth, infectious keratitis, enterotoxemia and lambing paralysis continue to take their toll amongst sheep.

Lambing paralysis is a disease of ewes seen in flocks where the owner attempts to winter them through on a single feed and where the ewes are kept confined. The condition is readily prevented by feeding a balanced diet and allowing the ewes plenty of exercise.

EDUCATIONAL WORK

A large number of meetings, field days and short courses have been attended to discuss live stock diseases. Emphasis is laid on the prevention of disease. Courses in disease prevention were given to students in agriculture at the Provincial Schools of Agriculture.

STALLION ENROLMENT BRANCH

There has been a decided decrease in enrolments for the year 1945. Stallion owners have found it unprofitable to travel their horses as was the custom in past years. Now stallions are left in the barns, and the result has been that breeding of heavy horses is the lowest it has been for years. Good heavy horses bring a fair price, but farmers stated that it does not pay to breed, feed and break horses for the prices offered. Horse buyers, both local and from Eastern Canada, state that there are plenty of good horses in the Province, but owners will not take the trouble to break them. There will always be some demand for a type of heavy horse, and for this reason a certain amount of horse breeding should be encouraged.

A recommendation passed at the last meeting of the Alberta Provincial Horse Breeders' Association, held in Edmonton, December 13th, was that two stallions, a Clydesdale and a Percheron, be placed at the Dominion Experimental Farm, Lacombe, and that these two stallions be used for artificial breeding, met with favourable comment from the horsemen present. This was suggested as a solution to encourage the use of two outstanding stallions. Certainly some method of encouraging horse breeding along carefully planned lines will have to be devised if the horse industry is to survive. It is useless, however, to raise horses unless they can be placed on the market in proper condition, and they must be sound and well broken, otherwise they are not wanted by any buyers that we have at present.

We had reason to believe that during the past year a considerable number of horses might go from this Province to some European countries, but unfortunately this outlet did not materialize, and whether the Dominion Government will revive their purchasing plan this coming spring remains to be seen.

The picture, in so far as light horses are concerned, is entirely different. There has been a great interest in the breeding of thoroughbreds, saddle horses and hunters, from one end of the Province to the other. Great credit for encouraging the breeding of light horses must go to the Northern and Southern Thoroughbred Associations, and also the Saddle Clubs at Calgary and Edmonton. Thoroughbred stallions have been brought into the Province for breeding purposes from Eastern Canada as well as Great Britain and the United States. Shows and exhibitions for saddle horses,

for both light and heavy hunters, have been held in various parts of Alberta throughout the year, and if the interest continues we may well become the leading Province for this class of horse in the Dominion.

In spite of the fact that there has been a considerable dropping off in the enrolment of heavy horses, it is most desirable that records of breeding stallions should be kept. The efficient methods of keeping records of registered stallions, as carried on in this Branch, must be kept up. Many horsemen will remember the difficulties encountered in straightening out pedigrees when The Stallion Enrolment Act came into force in Alberta in 1917, and how many good animals were lost to the various breeds on account of the owners being unable to straighten out transfers, and thus inability to prove ownership. Every effort should be made to prevent such a condition occurring again, as it is a difficult and intricate matter to straighten out.

The following is a summary of the work accomplished in the Stallion Enrolment Branch during 1945:

Breed	Enrolled	Inspected	Passed	T.D.	To be Re-examined
Percherons	152	37	23	10	4
Clydesdales	25	6	2	3	1
Belgians	62	17	12	5	
Suffolks	4				
Standardbreds	7				
Thoroughbreds	30	12	9	1	2
American Saddle	9	4	4		
Arabian	1				
Hackney	1	1	1		
Total	291	77	51	19	7

From this table it will be noted that in 1945 there were 48 light horses enrolled as compared with 42 in 1944, and 243 draft horses as compared with 429 in 1944. This indicates the increased interest in the lighter breeds of horses, taking place in the Province.

The following statistics give the number of horses sold at the Lacombe Horse Sale since 1930 up to and including 1945, the Calgary Horse Sale for the past five years, and the Red Deer and Stettler Horse Sales for the year 1945:

LACOMBE HORSE SALE

Year	No. Sold	Total Sale Value	Ave. per Head
1930	357	\$16,569.86	\$82.80
1931	605	33,465.00	55.31
1932	386	22,967.50	61.08
1933	187	10,328.00	55.23
1934	203	13,764.50	67.80
1935	366	25,110.50	68.60
1936	308	25,830.25	83.86
1937	540	50,712.00	93.91
1938	684	57,540.00	84.10
1939	1,005	79,515.60	79.12
1940	815	59,288.00	72.75
1941	681	42,947.00	64.24
1942	711	49,282.50	69.30
1943	707	51,737.50	73.25
1944	986	73,083.00	74.12
1945	1,017	66,880.00	65.75

CALGARY HORSE SALE

1941	322	\$21,896.00	\$68.00
1942	347	25,225.00	72.69
1943	616	43,298.50	70.28
1944	856	61,952.50	72.37
1945	1,120	76,607.50	68.40

RED DEER HORSE SALE

1945	327	\$21,582.00	\$66.00
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STETTTLER HORSE SALE

1945	924	\$63,044.00	\$68.20
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REPORT OF THE ANIMAL PATHOLOGIST

(T. LLOYD JONES)

The two main functions of this branch are (1) a diagnostic service and (2) the investigation of diseases that are of economic concern in Alberta.

Diagnostic Service.—We have examined 519 more specimens this year than last. The 2,144 specimens received represent 13 different animal species. The greatest increase has been in milk samples submitted for testing for Mastitis. There were also 4,622 cattle blood samples received in our free blood testing service for the diagnosis of Brucellosis (Bang's disease). This is an increase of 478 over last year.

The following table shows the number, nature and conditions found in specimens received:

TABLE 1

	Live	Dead	Portions	Total
Swine	87	95	55	237
Horse		1	17	18
Cattle		7	102	109
Sheep	4	8	21	33
Fox	5	23		28
Mink	46	122	4	172
Rabbit	1	3	2	6
Dog		7	2	9
Cat	5	1		6
Monkey		1		1
Chinchilla		7	7	14
Chicken	306	473	51	830
Turkey	15	28	12	55
Goose		1		1
Feed			16	16
Fecal Samples			10	10
Milk Samples			552	552
Blood			47	47
Total	469	777	898	2,144

TABLE 2

	Horses	Cattle	Sheep	Swine	Fox	Mink	Rabbit	Dog	Cat	Chin- chilla	Miscel- laneous	Total
Abscess		3		4		1						8
Actinobacillosis		1										1
Actinomycosis		3										3
Anaemia				12		1						13
Azoturia	1											1
Blackleg		7										7
Bloat		1		1								2
Blood		28										28
Brucella Infection	2	11										13
Clostridium Infection		1	1	1								3
Coccidiosis						3						3
Corynebacterium Infection		3		2								5
Cystitis						1				1		2
Distemper					1	65						66
Errors in Feeding				3		5	2					10
External Parasites		1	1	1	2							5
Food poisoning				1	8	16						25
Gastritis and Enteritis		4	2	79	5	40		2	3	3		138
Hernia				1								1
Infection of Newborn		1	4	1								6
Injury		1	1		1			1				4
Leukaemia				1								1
Malignant Oedema				1								1
Mastitis		216										216
Metritis						1						1
Milk Samples (negative)		344										344
Miscellaneous Diseases	1	8	2	4	2	1	1	1	1	1		22
Mixed Infection	1									1		2
Neorhynchus Infection		3	2									5
Necrotic Enteritis				8								8
Nephritis		1										1
Not Diagnosed										2		2
Nutritional Deficiency			2	11		1						14
Nursing Sickness						3						3
Osteomalacia		1										1
Overeating	1		1	1	2							5
Paratyphoid Infection		1										1
Pasteurella Infection		6	2	18								26
Peritonitis				2								2
Pneumonia		1	1	56	3	5			2	2	1	71
Poisoning		6		3					2	1		12
Pregnancy Disease			1	2								3
Pregnancy Test	1			1								2
Pyelonephritis		1										1
Rhinitis				23								23
Swine Erysipelas				7								7
Swine Influenza				5								5
Streptococcus Infection		3				1						4
Sunburn				1								1
Tumors		1			1	2						4
Urinary Calculi						8						8
Vent Disease		1										1
Worms	1	1	2	24	5	1			3	1		38
Total	8	658	22	275	30	155	3	4	11	12	1	1,179

TABLE 3—POULTRY

	Chickens	Turkeys	Miscellaneous	Total
Blackhead		5		5
Botulism	1			1
Cannibalism	3			3
Chilling or Overheating	135	3		138
Coccidiosis	93	8		101
Egg Bound and Internal Laying	7			7
Enteritis	12	6		18
External Parasites	8			8
Fowl Cholera	25			25
Fowl Typhoid	15	2		17
Infectious Bronchitis	6			6
Impaction	3	2	1	6
Injuries	3	1		4
Internal Parasites	51			51
Laryngotracheitis	6			6
Leukosis Complex	25			25
Neoplasm	4			4
Nutritional Disorders	29	5	4	38
Omphalitis	3			3
Perosis	1			1
Paralysis	12	1	3	16
Poisoning	5			5
Pullorum (adult)	7			7
Pullorum (chick)	96	1		97
Reproductive Disorders	1			1
Roup	25	4	3	32
Ruptured Liver	1			1
Tuberculosis	91	7		98
Visceral Gout	7		1	8
Miscellaneous	29	3		32
No evidence of disease or putrid	92		4	96
Total	794	48	16	850

Biological Products.

Brucella abortus antigen has been prepared for use in our free cattle blood testing service, and we have supplied positive *Brucella* serum to veterinarians to be used in check tests when they conduct the rapid agglutination test themselves. Autogenous, formalized tissue vaccine has been prepared from mink, sick with distemper. Sufficient vaccine to inoculate 5,285 mink has been distributed during 1945. The history on the twenty ranches where this vaccine was used indicates that it has some value in modifying an outbreak of distemper, but there has been a great need for a product that could be used on mink to give them protection before distemper usually makes its appearance. This year the first case of distemper in mink was received on June 20th. We have advocated the use of a protective vaccine on breeding stock before the mating season begins. Lacking accommodation for keeping ferrets and adequate facilities for large scale vaccine production, we have been unable to provide this kind of service. Recently, however, arrangements have been made for a commercial vaccine to be used on a large scale before the 1946 breeding season begins.

We have had an opportunity to give this commercial vaccine a trial on eight ranches in the Lesser Slave Lake area. There were 1,720 mink on these ranches, and 991 were vaccinated with a single 2 cc. dose of vaccine as recommended by the manufacturer. We found by close questioning that distemper on these eight ranches had been responsible for the death of 144 mink before the vaccine was used. Within the period of 10 days after we administered the vaccine, a further 28 mink were lost, and from that time to the time of pelting 29 died. These results are encouraging when compared with the mortality on neighbouring ranches where the disease ran its course. A field trial on private ranches does not permit the demands of experimental proof by challenging immunized mink with virulent virus. The criterion used to appraise the vaccine

under investigation was the history on ranches where the vaccine was used compared with that on other ranches. Results obtained gave sufficient encouragement to warrant a large scale trial of this commercial vaccine as a preventive measure by inoculating mink before the usual time for distemper to occur.

Fox Distemper has not been reported from many ranches this year. Our attention has been drawn to only one ranch where a serious epidemic has occurred. Ranchers who have had the experience of a distemper epidemic in previous years took advantage of the change in regulations whereby the Veterinary Director General allowed virus-vaccine to be imported from the United States. A permit was issued for vaccine to be imported by this Branch, and 9,589 doses of fox virus-vaccine were brought in under this permit. A further change in the regulations now make it possible for registered veterinary surgeons to obtain a permit from the Veterinary Director General, Dominion Department of Agriculture, to import this vaccine, providing they administer the vaccine themselves.

Calfhood Vaccination Against Bang's Disease.

We have kept records of vaccinating calves in a dairy and beef herd on an institutional farm since strain No. 19 *Brucella* vaccine was first used, in March, 1942. Some of the vaccinated animals have now gone through their third pregnancy. The following table is taken from our records:

Number calves vaccinated at 4 to 8 months of age	122
Number with positive blood reaction at time of vaccination	1
Number with negative blood reaction four to six weeks after vaccination	4
Number with positive blood reaction 6 months after vaccination	46
Number with positive blood reaction 12 months after vaccination	13
Number with positive blood reaction 18 months after vaccination	11
Number with positive blood reaction 24 months after vaccination	10

Of the 122 calves vaccinated, 32 had been sold and two had died in the period from March, 1942, to December, 1945. Among the 88 animals remaining on the farm, 33 had reached the age of their first pregnancy, 29 gave a normal first calf, and 4 aborted. Among 13 that went through a second pregnancy, 4 aborted; 2 of these had aborted on both occasions that they were in calf. Two animals that were vaccinated as calves have completed their third pregnancy, and none has to date aborted during third pregnancy.

During the period these records cover, the whole herd was blood tested on ten different occasions. The first five tests were made at three month intervals, and the last five at six month intervals. The following table shows total number of adults in the herd, and the percentage infection on each successive test. This table gives an idea of the extent to which vaccinated calves were exposed to natural infection in this herd:

Test	1	2	3	4	5	6	7	8	9	10
Number Cows in Herd	121	119	98	127	119	120	116	104	119	96
Percentage of reactors	46.3	52.1	61.2	44.1	48.7	45.0	41.3	38.4	45.3	37.4

Mastitis.

Increasing alarm is evident among dairy farmers over the serious effects mastitis has on milk production. The value of an early diagnosis is also being realized, and there is a tendency to entrust this problem to the practicing veterinarian. He is equipped to employ modern methods of treatment, including the use of valuable

drugs such as penicillin, infused into the udder. The 552 milk samples we received during 1945 for diagnosis of mastitis is an increase of 450 over last year.

Further expansion at this laboratory should include a closely co-ordinated service with the Dairy Bacteriologist, the veterinarian in the field, and with cow-testing and other services that are under the direction of the Dairy Commissioner.

Poultry.

The relative incidence of the different poultry diseases is similar to that reported last year. Three diseases of greatest economic importance continue to be pullorum disease in young chicks, coccidiosis in growing birds, and tuberculosis in mature fowl. It is fortunate that serious respiratory infections such as laryngotracheitis are only rarely found in this Province. We have not resorted to vaccination in any outbreak that has come to our attention, since we recognize the hazards that may accompany the use of the living virus-vaccine. We favour eliminating the virus by a policy of slaughter and disposal by burning or deep burial of all affected birds on premises where the disease is found. Where this procedure fails to bring an outbreak under control and where it appears that the disease has become well established in a flock, we shall not hesitate to use virus-vaccine so long as all circumstances suggest that this is advisable as a last resort.

In co-operation with the Poultry Commissioner, we attempted the de-sexing of male birds by injecting them with a hormone in the form of a small pill. Our limited observations lead us to believe that hormones may eventually replace the surgical operation of caponizing. It remains for further investigational work to demonstrate the feasibility of administering this agent by mouth before it gains favour as a practical procedure.

Swine.

There was a slight increase in the number of swine specimens received this year. Rhinitis, a disease that has been widely publicized, has been given attention to the limit of our facilities. We have found it a distinct handicap, however, to be without quarters for housing swine for the purpose of observation and investigation. After considerable labour in the matter of feeding and managing a few pigs in makeshift pens, by the technical staff of the laboratory, we were forced to admit that our attempts to obtain information on this important disease would not measure up to the demands of properly controlled experiments. Thus, while field observations gave compelling evidence of the infectious nature of this disease, we lacked the proper facilities for shedding light on this hypothesis. It is impossible to decide on any definite procedure that will control rhinitis until more is known about the nature of the disease.

Lacking accommodation for experimental work, we turned our attention to obtaining information on the disease by collecting data in affected herds. The following summarizes our findings:

1. Rhinitis has been found in every census division of the Province with the exception of C.D. 12, roughly between the Pembina and Athabaska rivers from range 7, west of the 5th meridian, to the B.C. boundary, and the sparsely populated C.D. 17, which extends from township 69 in the east to township 90 in the west and north to the Provincial boundary.

2. Its origin on many farms suggests that the disease is spread by breeding stock and other additions to the herd, coming from affected premises.

3. Initial appearance of rhinitis suggests an innocent condition which warrants no alarm on the part of the farmer. Shortly after the next farrowing season, suckling pigs begin to snuffle and sneeze as early as three weeks after birth, and they may remain stunted for life. After a mild beginning, there may develop a high incidence of the disease which sometimes requires complete de-population of swine to bring the condition under control. It may take 18 months to 2 years before reaching such serious proportions.

4. We have collected information on the pathology of the disease.

5. Field observations give evidence that a distortion of the nose is probably only one manifestation of the disease, but that it is not necessarily present in all affected animals. In herds where typical cases are found, many pigs show a lack of thrift and a poor gain in weight without any nose distortion. Both long and short nosed pigs become affected, but the effect is usually more serious in those with a short nose.

6. The most serious effect rhinitis has in a swine herd is that it retards growth. Affected swine kept under observation for a five-month period made as little as 0.35 lbs. average daily gain. Occasionally, obvious clinical cases appear to make normal gains.

7. We have observed the disease on premises where sanitation and housing left little to be desired.

8. The economic loss is considerably lessened where feeding practices are good.

9. There appears to be an "age resistance" factor in this disease. We put two pigs at 10 weeks of age in a pen with 25 affected swine. They were exposed in this way for 24 days, and were kept under observation for three weeks afterwards, without showing any ill-effects. A sow and litter of seven pigs one week old were placed with affected swine for over four months. The young pigs remained stunted; they sneezed intermittently throughout this period. First evidence of sneezing was on the thirteenth day of exposure. Average weight of four pigs that survived to four months when they were killed was 34 lbs.

What the outcome of rhinitis will be it is impossible to say. The effect of most diseases is spent in time, but the losses that have already occurred are incalculable.

Extension Service.

We have continued to provide information on animal diseases by interviews and correspondence, and at field days, short courses, etc.

Scope of Work.

Scope of work at the Veterinary Laboratory has been a subject of discussion at different times during the year. The need for a laboratory was felt for some years, but it was the programme of increased live stock activity resulting from war needs that decided on the establishment of this Branch in January, 1940. An attempt was made to obtain accommodation at the University of Alberta, but overcrowding made this impossible. It was then decided to

house the laboratory in temporary quarters in the Terrace Building. The demands that are made on both service and investigational work show clearly that this Branch has outgrown the facilities that are presently available. Considering the general lack of veterinary services throughout the Province, it is natural to expect a progressive expansion of the work that could be done for the public good, at a well equipped veterinary laboratory. Lack of staff and facilities put us in the position of having to refuse undertakings that are obviously worthy of our attention.

Most problems that require investigation by the veterinary pathologist involve the use of animals for making observations under experimental conditions. We are denied this aid in our work because of lack of accommodation. The fact is that we are not properly equipped to raise laboratory animals that are required constantly in our diagnostic service.

A considerable economic loss to the Province occurs from live stock diseases. A paucity of information on some of these makes it impossible to formulate measures of control. We would be negligent in our duty therefore if we did not recommend the provision of improved facilities for investigational work to be undertaken in the interests of the live stock industry. That we are supported in this matter is evident from the unsolicited remarks made and resolutions passed at conventions and meetings of groups, whose interest is in live stock production.

REPORT OF THE PROVINCIAL APIARIST

(W. G. LE MAISTRE)

For the third year in succession Alberta's total honey crop has created a record, being 6,000,000 pounds for 1945. The average production per colony has been fairly constant, 89 to 92 pounds, during these years.

The number of beekeepers increased by 10% in 1945 as against 21% in 1944.

The number of hives increased by 12% in 1945 as against 33% in 1944.

	Production in lbs		Av. Net Price per lb. to Producer		Value in dollars	
	1944	1945	1944	1945	1944	1945
Honey	5,130,000	6,000,000	15c	15c	\$769,500	\$900,000
Beeswax	71,000	84,000	45c	45c	32,000	38,000
					<u>\$801,500</u>	<u>\$938,000</u>
Bees						
Number of hives			57,000	64,000		
Number of beekeepers			9,100	10,000		
Number of hives per beekeeper			6.2	6.4		
Production per hive (lbs)			90	92		

Approximately 55,000 packages of bees were imported in 1945, mostly from California and Alabama. The prices ranged from \$5.00 to \$6.50 each for 2 pounds of bees and \$6.25 to \$7.50 for 3 pounds of bees delivered in Alberta. The price of a 2 pound package in 1939 was \$2.75. The Dominion Government paid a subsidy of 50c per pound on these imported bees.

Unproductive colonies resulting from loss of queens in packages amounted to 14% in 1945 as compared to 18% in 1944.

Losses in colonies being wintered continue high, 46%. Improved practices can reduce these losses greatly, as has been demonstrated at our experimental apiary and by beekeepers who have given the necessary attention to their colonies. However, observation has shown that many successfully wintered colonies have failed to be more productive than imported packages. No clear-cut explanation of the reason for this is apparent.

	1943-44	1944-45
Colonies being wintered	13,000	9,140
Colonies being wintered, % of total	23	14
Winter loss of colonies	5,600	4,200
Per cent loss of wintering colonies	44	46

Season.

Cold, cloudy, backward spring weather greatly retarded the development of colonies in the spring. The usual sources of nectar and pollen were not available to the bees. Furthermore sugar rationing reduced the amount of artificial feeding that might otherwise have been done.

Though the onset of the main honey flow was later than usual, it nevertheless came before the colonies were in condition to make the most of it. The crop was average in many districts, but below average in some, particularly in more northerly areas, where it had been rather dry.

Marketing.

There is a ready market for all honey, much of it being sold direct to the consumer. The wholesale trade has received more than during the two previous years. A few carloads have been shipped out of the Province and wholesalers have brought in a few carloads.

	1944	1945
Producer to wholesaler, per case 8's	\$7.29	\$7 60
Producer to wholesaler, bulk, per lb.	.12	.13
Producer to retailer, per case 8's	8 01	8 01
Producer to retailer, bulk, per lb.	.13	.13
Produced to consumer, blk, per lb.	.15	.15

These prices apply to honey which grade No. 1 White; lower prices obtained for other grades and classes. Because there is a price differential in the different classes and grades of honey, beekeepers are beginning to realize the value of improving their pack. Selling by grade would be a forward step.

Disease Control.

Increasing the number of part-time inspectors from 12 to 16 distributed their services better. The rapid increase in hives and their wide dispersal leaves room for further improvement in this work, if the losses from American Foul Brood are to be controlled.

For the most part, beekeepers co-operate willingly with inspectors. Disease seems largely to be spread through sales of infected equipment. Better checking of these sales has been receiving attention.

This Branch maintains a diagnostic service, which enables any beekeeper suspecting disease to send in a sample for microscopic examination, and on which he receives a report and recommendations.

Eighty-eight samples were submitted and diagnosed as follows:

*A.F.B.	32	Nosema	2
*E.F.B.	12	Not Diseased	40
Sacbrood	2		

*American and European Foul Brood.

	1944	1945
Number of hives inspected	4,400	4,800
Number of hives diseased (A F B)	135	280
Number of apiaries inspected	590	904
Percentage of inspected hives diseased	3 1	5 8
Percentage of all hives diseased	23	43
Number of beekeepers registered	8,000	8,300
Number of beekeepers not registered (est.)	1,000	1,700
Number of hives registered	53,000	56,000
Number of hives not registered	3,700	8,000
Percentage of beekeepers not registered	12	25

Experimental.

A test comparing wintered hives, two pound packages and six pound packages was conducted.

In this, the first year, the result was as follows. Conclusions are not drawn.

Average production over wintered hives	86 lbs.
Average production 2-lb. packages	56 lbs.
Average production 6-lb. packages	72 lbs.

Further tests on comparative yields of different sizes of packages and wintered over hives are planned. Extension of this project to provide information on influence of installation dates, two queen system and strains of bees would be desirable.



Experimental Apiary at Oliver

This method of packing hives in tar paper has been demonstrated as suitable in this climate.

Extension.

Radio talks, agricultural notes in season, bulletins, circulars, short courses, lectures, field days and correspondence are employed to disseminate preferred practices in all matters relating to the industry.

The majority of our 10,000 beekeepers have gone into the business, without any previous knowledge of it, during the last three years. The demands on this Branch for information are therefore very considerable. There are practically no other informed agencies in Alberta.

The district agriculturist service was responsible for organizing most of the 85 meetings held. The average attendance at these meetings was 61.

Beekeepers' Organizations.

The Alberta Beekeepers' Association, an organization to promote the general welfare of the industry, is comprised of affiliated local beekeepers associations and members at large. There are 1,300 paid-up members. The Provincial Apiarist is secretary-treasurer.

The Alberta Honey Producers Co-operative Ltd. was strongly urged by the Association to undertake the supplying of bees and equipment. The increased demand and limited supplies of those items were seriously handicapping the development of beekeeping. The directors of the Co-operative were not in a position to add this service unaided, and made an arrangement with the Department to assist.

The following are the officers and directors of the Alberta Honey Producers Co-operative Ltd.: P. Kowalski, Bon Accord, President; Harvey W. Smith, Bassano, Vice-President; J. W. Blewett, Edmonton, Secretary-Treasurer; Directors: L. Blades, Ohaton; W. G. le Maistre, Edmonton, Managing Director; H. T. Philpott, Brooks; J. M. Shafer, Rainier; W. R. Sterling, Westlock; H. Weidman, Hill-spring; M. J. Zeise, Dapp.

Sugar Permits.

Under the present rationing system, Provincial Apiarists are authorized to issue permits to beekeepers requiring sugar to feed their bees. There were 11,500 of such permits issued.

REPORT OF SCHOOL OF AGRICULTURE, OLDS

(JAMES MURRAY, *Principal*)

The 1944-45 term of the Olds School of Agriculture was brought to a close on April 5th, when diplomas in Agriculture were presented to 46 young men and diplomas in Home Economics to 38 young women. The Hon. D. B. MacMillan was present and addressed the graduating class.

The Valedictorian was Miss Alma Storch, Morrin.

Scholarships were awarded as follows:

The Alberta Wheat Board Moneys Trust Scholarships, each of \$100.00, tenable at the University when they register for a degree course—Robert McGinnis, Pickardville; James Hircnaka, Raymond; Kenneth Hutchings, Gibbons; Norma Heichen, Stony Plain; Stephanie Saykewich, Derwent.

A Scholarship of the value of \$75.00 to the student in Agriculture standing highest in the work of the first year—Kenneth Ruxton, Fawcett.

A Scholarship of the value of \$75.00 to the student in Home Economics standing highest in the work of the first year—Shirley Watkiss, Sylvan Lake.

Searle Grain Company Scholarships of the value of \$50.00 each for progress in the first year's work—The one in Agriculture to Robert Brandley, Raymond, and the one in Home Economics to Ina Trider, Whitelaw.

The Girls' Alumnae Scholarship of the value of \$50.00 to the student in Home Economics who made a satisfactory standing in academic work and also made contributions to the athletic, social and literary life of the school—Awarded to Alice Rasmussen, Magrath.

The O.S.A. Experimental Union Scholarship of \$50.00 awarded on the same basis as the above—Awarded to Orrin Hart, Claresholm.

The Alberta Women's Institute Scholarship of \$50.00 for a first year student in Home Economics who had a creditable standing in scholastic work, who made valuable contributions to school activities and who displayed talent for leadership—Awarded to Clara Storch, Morrin.

Enrolment.

For many years the school has had as many students as could be accommodated. Two years ago admission had to be refused to about 50 applicants, and one year ago to about 150. This year the School of Agriculture at Vermilion has full classes of first year students drawn mainly from the northern parts of the Province, but in spite of that we had many more applicants for our courses than could be accepted. We already have quite a number of applications on file for the 1946-47 term.

With the termination of the war we began in midsummer to receive applications from men discharged, or about to be discharged, from the armed services. At the time we had already accepted as many students as we could accommodate. We succeeded in getting a number of 16-year-old applicants to wait a year, and in this way we were able to admit about 15 discharged service men. They are making excellent progress.

The enrolment for the present term is as follows:

	Agriculture Home Economics	
First Year	66	35
Second Year	37	22
Two-in-One	29	15

Staff Changes.

Miss E. M. Switzer, who has been in charge of the sewing department for the past 10 years, retired from the service in September. Miss Switzer was an excellent teacher, and will be pleasantly remembered by several hundred girls who had the opportunity of taking her classes.

Miss Helen Moseson, who has been instructor in Cooking and Household Administration for the past two years, has taken charge of the sewing department.

Miss E. A. Alford, B.Sc., has been appointed to the position vacated by Miss Moseson. Miss Alford has been District Home Economist at Red Deer, and is well qualified for her new duties.

Edward A. Patching, B.Sc., of Lethbridge, has been appointed Instructor in Field Husbandry and Dean of the Men's Residence in place of J. E. Hawkins, B.Sc., who has been transferred to the Vermilion School of Agriculture as Instructor in Science.

Improved Accommodation.

The addition to the dormitory has been a real help in accommodating the students in Agriculture. The additional rooms provide space for 30 boys, so that now practically all our students can live in.

This year we have the use of the new slaughter house. Since nearly all the meat used in the dining-room is dressed on the premises, this room is of real value to us.

Course of Study.

Each year minor changes are made in the course of study, but this year they have been very few. We aim, as in the past, to give a course in Agriculture suitable for young men who intend to engage in practical agriculture, and to the students in Home Economics, a home maker's course. The latter specializes in Sewing, Cooking, Household Administration, Home Nursing and Laundry, but includes some work in Horticulture, Dairying, Poultry. English and Mathematics are included in both courses as many students register who have not completed their high school courses.

The short course in Fur Farming given last term for the first time was in the hands of Mr. John Keith of the Game Branch, and proved to be very popular. It is not an exhaustive course, but gives students a general idea of the fur farming business.

Summer Courses.

The short course for efficiency winners from the live stock and grain clubs had an attendance of 150. The school staff provided a course of lectures and demonstrations in crops, soils, live stock, horticulture, poultry and dairying. In the evening a variety of programmes were provided for entertainment. Tests were given at the end of the course, and scholarships were awarded on the results of the tests. Following are the names of the winners:

Swine Clubs—Ronald Galloway, Fort Saskatchewan.

Dairy Calf Clubs—Art Duby, Rainier.

Beef Calf Clubs — Gerald Cole, Clive; Hector Cameron, Vermilion.

Wheat Clubs—Robert Hironaka, Raymond.

Oat Clubs—Charles Whitesell, Rimbey.

Barley Clubs—Paul Stelmaschuk, Spedden.

These scholarships are of the value of \$75.00 each, and are tenable at either this school or Vermilion in 1945-46 or 1946-47. Two of the winners are in attendance here this year.

A short course of one week was arranged for the efficiency winners from the Home and Garden Clubs, and at the same time we were hosts to the Alberta Women's Institute Girls' Clubs. The total attendance was approximately 150. Two scholarships were awarded, one from each group. Evelyn King of Millet was the selection from the Women's Institute Girls' Clubs, and Marguerite Baker of Erskine from the Home and Garden Clubs.

Farm Women's Week was again very successful with as many in attendance as could be accommodated and many refused whose applications came in late. A special feature of the programme was a display of weaving shown through the courtesy of H. G. L. Strange of the Searle Grain Company. About half of the weaving shown was from the rural parts of Quebec, and the rest of it was the work of weavers on prairie farms. It elicited much favourable comment. Mr. Strange was present and spoke to the ladies on recent developments in weaving on the prairies. Others who contributed to the programme were Mrs. Weller and Mrs. James Lyall of Calgary and Dr. Max Cantor from the University of Alberta. Our own staff contributed liberally to the week's programme.

The Convention of the Alberta Home and School Association was held here shortly after the school closed in April. About 150 delegates were present from all parts of Alberta.

Summer Work of Staff.

During the summer months when there are no special courses at the school, the staff are variously employed. Grain, live stock and poultry clubs take considerable of the time of Mr. Hawker, Mr. Gordon, Mr. Benn and Mr. Malyon. Mr. Parkinson and Mr. Armstrong were on the Extension staff practically all summer attending machinery field days. Mr. Carter also had much of the summer taken with Extension work. Miss McIntyre was located at Edmonton as District Home Economist. As in previous years, Mr. Yauch carried on quite extensive work with fertilizers, forage crops and cereals in the grey soil belt west of here, and as well, supervised some experimental work in the control of weeds by chemical and cultural methods.

Gray Soil Work.

Fertilizer and variety tests of grain were conducted on farms at Kevisville, Sundre, Bergen, Garrington and Cremona. At Sundre and Garrington five-year rotations are being conducted, and a considerable amount of variety testing is undertaken in co-operation with the Cereal Division of the Central Experimental Farm, Ottawa, and the Department of Plant Science of the University of Alberta. Field days were held at Sundre and Garrington.

There seems to be a deficiency of sulphur in all the soils tested, and wherever the element is supplied in the elemental sulphate form the response is phenomenal. A gypsum spreader which can be attached to an ordinary wagon box was constructed, and was used successfully by quite a number of farmers.

Variety and Fertilizer Tests of Oats and Barley on Grey Soils, 1945.

Each variety was seeded in duplicate in four rod rows at each location. Yields were calculated from the two centre rows. The plots on the Boehme farm west of Bowden were on spring plowed clover land, the Christenson plots on spring plowed grain land, and those on the Graham farm on potato land.

	Boehme	Christenson	Graham
Barley:			
Warrior	37.25	27.25	60.75
Olli	41.75	37.25	82.50
Titan	40.50	26.50	63.25
Titan—2	37.50	34.25	67.50
Sanalta	35.75	19.75	62.50
O.A.C. No. 21	34.75	26.00	73.00
Montcalm	37.75	28.00	69.20
Oats:			
Valor	49.20		107.00
Larain	49.75	41.50	102.00
Mabel	67.50	46.00	114.00
Victory	70.75	50.75	93.50
Ajax	62.25	60.00	105.50
Legacy	62.50	58.50	109.00
Legacy—2	61.75	71.50	129.00

Titan—2 and Legacy—2 were fertilized with ammonium phosphate 16/20.

Fertilizers in Forage Crops.

Edgar Johnson Farm, Mound.—These plots are in a rotation experiment. A hay mixture—alfalfa, red clover and timothy—was seeded in 1944 and fertilizers were applied in the fall of the same year. Yields are reported in pounds per acre.

Treatment	Yield
East check	1,760
Superphosphate 2-20 at 150 pounds	2,170
Superphosphate at 100 and Potassium Sulphate at 25	2,445
Centre check	1,650
Manure only	2,290
Manure and Superphosphate at 160 pounds	3,090
Gypsum at 200 pounds	2,740
West check	745

H. Anderson Farm, Sundre.—These plots are also in a rotation experiment. The mixed forage crop received only 100 pounds of gypsum in the fall of the season they are sown.

	Check		Gypsum	
	1945	1944	1945	1944
1943 seeding	955	2,080	3,940	4,850
1944 seeding	2,020		3,620	
Two year yield from 1943 seeding, lbs.	3,035		8,790	

The increase in yield of 4,755 pounds over a two-year period was secured from an application of 100 pounds of gypsum costing 75c.

Sprays for Weed Control.

A preliminary trial of the new weed killer known as 2-4-D was made on wild mustard, dandelion, plantain, Canada thistle, and sow thistle. The results were very promising. A concentration of 1-1000 effectively destroyed the wild mustard without injury to the grain; a concentration of 4-1000 killed dandelion and plantain, but the 1-1000 was not effective. For Canada thistle and sow thistle a concentration of 1-1000 caused distortion only. A greater concentration was not tried. The 2-4-D was supplied by the Consolidated Mining and Smelting Company.

In co-operation with the Field Crops Branch and the National Elevator Company a test was made of Sinox on a field of oats heavily infested with wild mustard. The spray was effective in killing practically all the mustard and did only slight damage to the oats. The yield of oats from the unsprayed part of the field was 65

bushels per acre and from the sprayed part 89 bushels, an increase of 24 bushels per acre.

Potato Experiments.

While potatoes are not an important cash crop in this district, they are of considerable importance, since they are grown to a limited extent on nearly every farm. Considerable experimental work has been done with the crop for a number of years to get information on suitable varieties, the value of fertilizers, the use of eyes instead of sets, and to cope with the spread of disease.

Indexing.—Since the inception of the plan by the Dominion Department of Agriculture, the school has co-operated in an effort to get more disease-free stock. Varieties have been used which our tests have shown to be suitable for central Alberta. Vick's Early is now the only variety we use for indexing. It is reasonably early, a good yielder, of good cooking quality and suitable for a fairly large area where lack of moisture is a factor to be reckoned with.

Tuber Units.—Four varieties have been used in the tuber unit work—Katahdin, Bovee, Vick's, and O.S.A. No. 3. The object of this work is to produce high yielding strains comparatively free from disease for distribution to growers.

VARIETIES—YIELD IN BUSHELS PER ACRE						
	1941	1942	1943	1944	1945	Aver.
Early to Midseason:						
Bovee—red	300	356	422	403	356	369.2
Bovee—white	293	242	297	293	308	286.6
Burpee's Early	263	302	367	355	370	331.4
Early Ohio	257	247	312	394	359	313.8
Carter's Early Favourite	374	356	403	418	378	285.8
Irish Cobblers	216	315	337	279	290	287.4
Kasota					498	498.0
O.S.A. No. 3	288	378	463	374	484	397.4
Pawnee					311	311.0
Midseason or Late:						
Canus			418	447	415	426.6
Chippewa	286	458	411	433	346	386.8
Golden Wonder				293	440	366.5
Houma		348	312	400	366	356.2
Katahdin	271	288	447	323	410	347.8
Netted Gem	330	320	354	304	336	328.8
Lacombe No. 7			464	440	370	424.6
Sebago		293	337	414	432	369.0
Eyes versus Sets:						
Chippewa—eyes				338	359	
Chippewa—sets				433	415	
Katahdin—eyes				257	297	
Katahdin—sets				323	410	
Vick's—eyes					384	
Vick's—sets					450	

Potato eyes have been distributed through the Experimental Union for several years with satisfactory results. The yield is not as great as from sets, but transportation charges are much less than with whole tubers. The figures given above indicate that eyes give a yield of about 70% of sets. Naturally, when the eyes are transported long distances, they deteriorate somewhat in quality and produce less. However, they afford a means of getting a start in new stock at comparatively low cost.

Tomato Varieties.

The demand for ripe tomatoes warranted continued efforts to trials of varieties and cultural methods in the hope of getting a variety suitable to such a district as this, where the soil is heavy and the altitude high.

Well grown plants were received from the Experimental Station at Lacombe. The change in environment was detrimental to their

progress, but when they were set out on June 12th after having been in cold-frames for a couple of weeks, they made good progress. They were liberally fertilized with ammonium phosphate 11-48. The fertilizer did not hasten maturity, but did increase the yield.

Twelve plants of each variety were set out. The first ripe fruit was picked on August 17th from Abel, Bestel and Lethbridge 3700. The fruit that was not ripe by September 12th was picked green, as frost appeared imminent. Following are the yields of ripe and green fruit from each variety.

Determinate Varieties:	Yield in lbs. from 12 Plants	
	Ripe	Green
Early Chatham	.75	108
Bounty	1.40	176
North Dakota	1.00	88
Lethbridge 3700	3.00	78
Lethbridge 3700 No. 2, Sel.	.70	142
Semi-Determinate:		
Labrador		66
Indeterminate:		
Abel	.50	14
Bestel	2.30	26
Earliana	.60	24
Earliana—certified	.38	22
Sugarwa	.22	28

Other semi-determinate varieties included in the test were Alpha Rose, June Pink, Biener's Pepper and Mingold, which were all too late.

The Orchard.

The orchard is located on a high piece of land, sloping gently to the east with some shelter in the form of trees on the south, west and north. The east is open. The altitude is 3,400 feet so that it is the highest experimental orchard in western Canada. It is in Zone 5, close to the border of Zone 6 on the Horticultural Zonation map of Alberta. It is in the chinook belt, and has a frost-free period of 100 to 120 days.

There was very little winter killing during the winter of 1944-45. This may be accounted for partly through the previous winter having eliminated many varieties that were tender and partly through the wood having been well ripened in the fall of 1944. Some killing back did occur among young trees which had made a strong growth the previous year and among new varieties just introduced.

There are now about 400 varieties of tree fruits under trial. About 80 varieties fruited this year. In the list given below only those that have been well tried are listed:

Apples.—Anis, Antonovka, Charlamoff, Heyer No. 12, Rosthern Number 17 and Number 15, Hibernial, Patten and Wealthy.

Apples-Crabs. — Rescue, Trail, Florence, Rosalind, Piotosh, Jewel x Duchess, Jewel x Tetovsky.

Crab-apples.—Alexis, Amur, Bedford, Columbia, Dolgo, Osman, Robin, Silvia.

Apricots.—Fruit was secured from a few seedlings of the Manchurian type. Scout produced a light crop.

Pears.—Young trees of Pioneer No. 3 have so far proven hardy, and produced fruit in 1945.

Cherry Plums.—Opata continues to be a heavy yielder year after year. Sopa is not so prolific.

Nanking Cherries.—Produce a fine showing of bloom and considerable fruit. Its value is mainly as an ornamental.

Sandcherries.—Brooks and Manmoor are of good quality, but are uncertain fruited.

Plums.—Give more trouble than any of the tree fruits, and we have nothing to recommend.

Raspberries.—Winter protection is necessary. Chief, Latham, Herbert and Ruddy produced a good crop. The newer varieties from Ottawa have been under trial. Some of the more promising ones are Trent, Rideau, Ottawa and Madawaska.

Gooseberries.—Produced a good crop of large berries. The varieties Abundance, Oregon Champion, Pixwell and Thoreson will probably replace the old standards Houghton and Downing.

Currants.—All varieties being tried are proving satisfactory with the exception of the flowering currants, which are too subject to Leaf Spot.

Strawberries.—Gave a poor crop in 1945. Dunlop and Premier are still two of the best, although many new sorts have been introduced. Among the everbearing varieties, Mastadon and Gem can be recommended.

Experimental Union.

This organization has functioned now for about 20 years, and has been the means of distributing throughout Alberta much good seed of new and promising varieties of grain, forage crops, and potatoes, plants, garden seeds and shrubs for ornamental planting. The membership varies from year to year—in 1945 about 400. In the earlier years of the organization the tests of new varieties of grains was carried on extensively, and seed of such crops as alfalfa and crested wheat grass sent out for trial. More recently emphasis has been placed on the distribution of perennial flowers, shrubs, home-grown vegetable seed, rhubarb, potatoes, small fruits, and occasionally tree fruits of tested varieties. Many farmers, and townspeople too, have been able to improve their home surroundings at nominal expense by belonging to this organization.

Creeping Red Fescue.

We have been growing and selecting this grass for the past fourteen years, and have a strain recognized by the Canadian Seed Growers' Association for registration. For the past four years we have been producing Foundation Stock Seed and supplying it to seed growers, mainly in Alberta, but to a limited extent in Saskatchewan and Manitoba. In the districts where this grass sets seed readily, seed growing has been a very profitable business, as there is an active demand for the seed at good prices.

Last year we grew seed in rows spaced at three different distances. Following are the results:

Rows 8" apart—4 lbs. seed per acre sown	Yield 340 lbs
Rows 12" apart—3 lbs. seed per acre sown	Yield 240 lbs
Rows 18" apart—2 lbs. seed per acre sown	Yield 323 lbs.

These plots will be left for seed production in 1946. In previous tests the wider spacing has been most productive the second year.

The School Farm.

The farm operated in connection with the school consists of approximately 600 acres. About 80 acres of this has not been broken and is used as pasture. It is conducted primarily as a live stock farm, the grain and hay produced being all fed on the place.

In actual precipitation the season was much below average. The rain fall from April 1st to the end of September was only 8.68 inches,

whereas the normal for that period is 12.87 inches. However, it was well distributed and came in useful amounts, so that the crops of grain, hay and pasture were all reasonably good. A snow storm in September interfered with harvesting, but eventually all but a few acres of oats were threshed.

The farm is quite heavily stocked, the live stock being used primarily for instructional purposes. Small herds are maintained of Shorthorn, Holstein and Angus cattle, all fully accredited. Several additional bulls are kept in connection with the artificial insemination work which is centred here. The flock of Hampshire sheep is small but of good quality. Yorkshire is the only breed of swine kept. There has been an active demand for surplus breeding stock of cattle, sheep and swine. Quite a number of hogs are slaughtered for use in the dining room.

The number of Percheron horses has been reduced in recent years. Only a few mares are bred each year, as there is little demand for breeding stock at present, and we depend mainly on mechanical power for field work on the farm.

The farm has been under the capable management of Walter K. Ross, who co-operates willingly at all times.

In concluding this report, I wish to express my appreciation of the excellent co-operation received throughout the year from all members of the staff engaged in teaching, administration and the work around the grounds, buildings and farm. Only through co-operative effort is it possible to keep such an organization as this school running smoothly and performing the functions for which it is maintained.

REPORT OF SCHOOL OF AGRICULTURE, VERMILION

(N. N. BENTLEY, *Principal*)

The Vermilion School of Agriculture and Home Economics was re-opened in the fall of 1945, after having been closed as a wartime measure in the spring of 1941.

During part of the intervening period the dormitory and other buildings were occupied as a basic training centre by the Canadian Women's Army Corps. New buildings erected for this purpose by the Department of Defense included two "H" hut barracks and a mess hall, a lecture hall, a stores building and a drill hall.

Of these new structures, the drill hall was most valuable and is now serving excellently as a Farm Mechanics Building, where instruction is being given in farm machinery, motors and farm buildings. The barracks and mess hall were never occupied, and cannot be used until served by a water supply and sewage system. When such facilities are installed, it would be possible to offer dormitory accommodation to approximately 150 additional students.

The School Term.

The school office was opened by the Principal on August 15th, and some members of the teaching staff commenced duties on September 1st. The fact that practically every room of every building had to be repaired and redecorated as well as equipped and furnished after that time, indicates something of the handicap encountered in organizing courses and preparing for the reception of student classes at the opening of the fall term. Wartime shortages and delays in deliveries added further difficulties. The original date set for the registration of students for the fall term had to be postponed from October 16 to October 30. However, when classes commenced on October 31 the buildings and classrooms were in good condition.

Only students for the first year courses in Agriculture and Home Economics were accepted for the 1945-46 terms. It was not considered advisable to offer the Two-in-one course until the following year, at which time second year students would be available and the second year courses would be presented. In view of the fact that accommodation for first year students in the 1946-47 term would have to be reserved, it was decided to limit the number of applications to be accepted to 80 boys and 40 girls. These numbers of applications were received and accepted by August 10th, but before October 15th, approximately an equal number of applications were received which had to be refused.

Five ex-service personnel were registered as students, but indications are that a much larger number will apply for admittance for the 1946-47 term. These men are excellent students, and because of their maturity and training they are making valuable contributions of leadership and example in both classroom and extra-curricular activities.

The Teaching Staff.

With only the first year courses in Agriculture and in Home Economics to be taught in the 1945-46 term, a somewhat smaller

staff was engaged than will be required when the second year and two-in-one courses are offered. The following is a summary of the staff employed:

N. N. Bentley—Principal, Instructor in Field Husbandry and Farm Management.

J. L. Kerns—Instructor in Animal Husbandry.

J. J. Paterson—Instructor in Farm Mechanics.

D. C. Folk—Assistant Instructor in Farm Mechanics.

J. E. Hawker—Dean of Men's Residence, Instructor in General Science.

L. Blades—Instructor in English and Mathematics.

P. A. Alt—Accountant, Assistant Instructor in Mathematics.

Mrs. M. E. Acheson—Dean of Women's Residence, Dietitian.

Miss E. R. Anderson—Instructress in Foods and Household Management.

Miss Mary J. Hawrelak—Instructress in Sewing and Handicrafts.

Miss F. F. Armstrong—Nurse, Instructress in Home Nursing.

Eight of the above members of the teaching staff are University graduates, five have had previous experience on the staff of Agricultural Schools, and seven hold qualified teacher's certificates.

Summer Programme.

Plans and preparations for the opening of the regular school term occupied all the attention of the staff during the fall. There were numerous visitors, interested particularly in the new Farm Mechanics Building and in the farm live stock.

The school grounds, the orchard, the field crop plot land, the farm buildings and machinery will require special attention in 1946 in order to put them in condition to serve the purposes intended. This work, in addition to a programme of short courses and extension meetings, will occupy a major part of the attention of the staff members during the spring and summer months.

The School Farm.

The school farm, which includes approximately 500 acres in addition to the land occupied by the school grounds and buildings, had continued since 1941 under the direction of the Provincial Department of Agriculture, but the live stock, the orchard and the school grounds had not received the attention required to serve educational purposes and to maintain former standards. Much of the soil is sandy loam or fine sandy loam, and requires special precautions against wind erosion. Approximately two-thirds of the acreage is now devoted to hay and pasture crops.

Live stock on the farm when the present staff assumed duties on September 1 included 13 Clydesdale horses, 10 Yorkshire sows, and 30 Suffolk ewes. There were no dairy nor beef cattle, and no poultry.

A live stock and cropping programme for the school farm has been planned, and good progress has been made in having it established. This programme has been designed to provide for classroom and other educational requirements, to employ the special market opportunities offered by the dormitory and to enable a suitable rotation of crops on the farm land.

A notable innovation includes the borrowing of a considerable number of live stock from purebred breeders of the Vermilion district. This stock is to be maintained on the school farm during the winter and returned in the spring of each year. Such a practice will provide a desirable variety of breeds and types for instruction purposes without necessitating an impractical and expensive breeding programme. Breeders have responded generously, and little difficulty was encountered in securing the kinds of stock required. During the fall term there were four head of each of the three principal breeds of beef cattle, four Southdown sheep and five grade Shorthorn milk cows on the farm under this arrangement.

In addition to the live stock on loan, 14 Holstein cows (8 of them pure-bred), 4 grade calves and 4 grade yearlings of each of the beef breeds were purchased, and 250 Leghorn pullets were secured from the Provincial Poultry Plant at Oliver.

Disease present in the swine herd was diagnosed in midsummer as infectious rhinitis. Steps to eliminate this infection will require a considerable curtailment of swine production during 1946.

The fundamental objective for the operation of the farm is to establish an outdoor laboratory for the educational programme being conducted in connection with the school. This precludes its operation as a "Demonstration Farm," although many of the individual projects are designed to demonstrate methods and practices that are recommended by agricultural authorities.

REPORT OF THE SUPERINTENDENT, SCHOOLS OF AGRICULTURE AND HOME ECONOMICS

(S. H. GANDIER)

Developments of the past couple of years with respect to the Schools of Agriculture policy and other junior activities within the Department have led to the organizing of this new Branch during 1945. In addition to the Schools of Agriculture, the Branch is responsible for Junior Club work and for Youth Training activities under the Dominion-Provincial training agreement.

The "Act respecting Schools of Agriculture," Revised Statutes of Alberta 1942, and Amendments thereto passed at the last session of the Legislature, provide for the appointment of a Board of Agricultural Education to act in an advisory capacity in shaping policy for the Schools of Agriculture and in framing the programme of agricultural education generally. They provide also for the appointment of a Superintendent of Schools of Agriculture, whose main duties are to supervise the schools, to co-ordinate and unify courses of study and services at the schools, and to act as the secretary of the Board above-mentioned. Appointment of the Superintendent became effective on May 16th, since which time this Branch has been in the process of organization.

The Board of Agricultural Education.

Under provisions of The Agricultural Schools Act, a preliminary Board of Agricultural Education with 11 members was named by the Minister in 1944, and one meeting was held in the fall of that year. A Co-ordination Committee was appointed to gather material for the further information of the Board. This committee held two meetings and brought in a report, its main recommendations being the continuance of the Schools of Agriculture policy under the direction of the Department of Agriculture, and the inclusion of agricultural courses on a modest scale in the Composite High Schools presently proposed by the Department of Education.

In accordance with "The Act to Amend the Agricultural Schools Act," assented to on March 28th last, the Minister announced the personnel of a permanent board of Agricultural Education as follows:

Hon. D. B. MacMillan, Minister of Agriculture, Chairman; Dr. G. Fred McNally, Deputy Minister, Department of Education; Dr. R. D. Sinclair, Dean of the Faculty of Agriculture, University of Alberta; O. S. Longman, Deputy Minister of Agriculture; J. M. Wheatley, President Alberta Association of Municipal Districts; Rudolph Hennig, Director Alberta School Trustees' Association; Lew Hutchinson, President Alberta Federation of Agriculture; Walter L. Perley, representing the Alumni of the Schools of Agriculture; Mrs. Winnifred Ross, President United Farm Women of Alberta; Mrs. E. E. Morton, President Alberta Women's Institutes; Thomas Smart, Grimshaw, and J. L. McIntosh, Dimsdale, members-at-large; S. H. Gandier, Superintendent of Schools of Agriculture, Secretary; ex-officio members, James Murray and N. N. Bentley, Principals of the Schools of Agriculture at Olds and Vermilion respectively.

First meeting of the new Board was held on November 12th for general discussion of present policies with respect to vocational training in Agriculture and Home Economics in Alberta, and to acquaint the members with existing conditions at the Schools of Agriculture. Provision was made for the appointment of a new Co-ordination Committee, for inspection of the schools by members of the Board and for the first regular annual meeting of the Board next June.

THE SCHOOLS OF AGRICULTURE

A Brief History.

This being the first annual report to be submitted by the Branch, it would seem opportune as a matter of record to recount briefly some of the main historical points with respect to the Alberta Schools of Agriculture.

Schools were first established in 1913 at three centres, namely, Claresholm, Olds and Vermilion, with classroom accommodation for approximately 100 students each. Courses in both Agriculture and Home Economics were offered, and these have been continued up to the present time. There were no dormitories, the students having to board at private homes in the town. The progress of these initial schools was encouraging, and three more schools were opened in 1920 at Raymond, Gleichen and Youngstown. The schools at Gleichen and Youngstown did not prosper because of dry area conditions and a comparatively sparse farming population. They were permanently closed after operating for two years. Four schools, therefore, continued to function from 1922.

The matter of boarding accommodation at all of the school centres had been a problem from the first. This was solved for the Olds School in 1927 and for Vermilion in 1928, when dormitories were built. With some adjustment in classroom and laboratory space, these two schools could now accommodate upwards of 150 students each.

In 1931, effects of the early depression years began to be felt, and it was decided that two more schools would be closed. These were the two southern schools at Claresholm and Raymond, which a little later were taken over by the Department of Health and converted into mental hospitals. Only the two schools at Olds and Vermilion now survived. Poor crop conditions in 1933 were responsible for closing of the Vermilion School for one term. It was reopened in the fall of 1934, and continued to operate until the spring of 1941 when, as a wartime measure, it was again closed and the buildings taken over a year later by the Department of National Defense as a training centre for the Canadian Women's Army Corps.

From 1941 to 1945, the school at Olds attempted to serve the whole Province. For the first two years of this period it managed to accommodate all applicants comfortably, but in 1943 a large number of applications had to be refused. By the fall of 1944 the surplus of applications had grown to a point that another school was necessary. As the Vermilion plant had been vacated by the C.W.A.C. that spring, it was decided to reopen at that centre for the 1945-46 term.

The Olds School.

Some points of special mention with respect to the Olds School for the past year are the following:

The addition to the boys' wing of the dormitory which was completed this year permits 30 more students to be admitted to residence. Registration at present is 132 in the agricultural courses and 72 in home economics, a total of 204 students. This number taxes the dormitory, classrooms and laboratories to their utmost capacity. In the animal husbandry section the new slaughter house now affords splendid accommodation for instruction in butchering. The subject of fur farming has been given a minor place in the course of study, and has proved to be popular. There is growing attendance at the summer courses, and it was not possible to accommodate all applicants for Farm Women's Week. Some of the more recent experimental work on the school plots, in the orchard and horticultural section, and on the grey wooded soils in the area to the west of Olds is achieving interesting and valuable results.

A complete account of the year's activities at the Olds School is given in the Principal's report, which is included as an appendix to this report.

The Vermilion School.

As above noted, the Vermilion School was reopened this year following a closure of four years. The new Principal was appointed early in the summer in the person of N. N. Bentley, who was Supervisor of Crop Improvement Service with the Field Crops Branch. Mr. Bentley was Instructor in Science at the Vermilion School for several years previous to its closing in 1941. Wartime conditions raised some difficulties in the engaging of staff, and several positions were not finally filled until well toward the opening of the term in the fall. The greatest problem in reopening of this school was replacement of furniture and equipment which had mostly been removed when the army took over the buildings. This original equipment could not be returned to the school as it had been used where needed at other Provincial institutions. Under present market conditions the acceptance of a good deal of equipment of inferior quality was unavoidable, and this will have to be replaced as proper materials become available. When the students entered in the fall, delivery had not yet been made of some important items of furniture and classroom equipment, and this has been a severe handicap in the management of the school. The students have been exceedingly co-operative, and difficulties of this nature are gradually righting themselves. During the summer and fall, the Department of Public Works had a crew of men constantly at work on renovation of the interior of all school buildings, but a good deal of this work still remains to be done before the school is again in good condition throughout. Much of the interior decoration is particularly well done.

Opening of the Vermilion School was postponed two weeks to October 30th because of delay in delivery of essential equipment. As the school had not operated for several years, there was no second year class to be admitted, and all registrations were for the first year courses. Classes were limited to 80 students in agriculture and 40 in home economics in order that there might still be sufficient space next fall for a first year class of reasonable size. Many applicants, especially those of minimum age, were refused admittance, and their applications will be held over to the next regular school term.

During the two year tenure of the Department of National Defence, six large army buildings were erected on the campus. These hold many possibilities for expansion of the school and courses offered. The large drill hall has already been converted to the use of the Farm Mechanics Department, which can now be enlarged proportionately to its importance in modern farming.

Considerable progress has been made in restoring the school farm to its main purpose as a supplement to the regular school work. Modern equipment has been installed in the farm dairy, and part of the building has been converted into a slaughter house for student instruction. The new dairy herd supplies the school residence with an adequate milk supply, and most of the meat is also provided from the farm. Most of the farm buildings sadly need repainting and other farm repairs are long overdue.

In its re-establishment this year, the school has had the whole-hearted support of the business men and citizens of Vermilion and district. While the school was closed, its Alumni Association continued to function and this large body of ex-students will be an active factor in the future activities of this institution as it has in the past.

Appended is the report of the Principal, who took up residence at the school on August 15th:

JUNIOR CLUBS AND YOUTH TRAINING

As previously noted, junior activities under the direction of this Branch include the junior live stock and crop clubs, also certain training under the Dominion-Provincial Youth Training Agreement. To take over the detail of this work, F. N. Miller of the District Agriculturist staff was appointed on June 1st to the position of Supervisor of Junior Activities and Youth Training. Junior work accomplished during the year is dealt with by Mr. Miller in the final section of the report of this Branch.

Appendices to this Report.

1. Report of School of Agriculture, Olds, by James Murray, Principal.
2. Report of School of Agriculture, Vermilion, by N. N. Bentley, Principal.
3. Report of the Supervisor of Junior Activities and Youth Training, by F. N. Miller.

REPORT OF THE SUPERVISOR OF JUNIOR ACTIVITIES AND YOUTH TRAINING

(F. N. MILLER)

The duties of Supervisor of Junior Activities and Youth Training were taken over by the present incumbent on September 1st. S. H. Gandier, who had been in charge of this division of the Agricultural Extension Service, was named Superintendent of Schools of Agriculture.

J. E. Hawker, instructor in Science, Vermilion School of Agriculture and for the past two years instructor in Field Crops at the School of Agriculture, Olds, was named Supervisor of Junior Crop Clubs in 1943. Mr. Hawker, in being transferred to the Vermilion School staff this fall, was relieved of the work of Supervisor of Junior Crop Clubs, as it was felt by the Department that the junior crops project requires full-time supervision.

After six long years, the war is now at an end. This is the post-war period for which so much has been planned by so many. Readjustment will necessarily be gradual, but general indications are that junior farm and home club work will not only soon attain the status it held before the war with respect to number of clubs and total membership, but that it will go on to greater achievement, expansion and development.

The world is at peace. Nevertheless, there are still many battles to be won: the battle for the maintenance of the fertility of the soil, the battle to provide for farm youth an opportunity to develop their potentialities as the future farmers of this country. The war certainly proved what young people can do. However, to win the war we had to put forth a supreme co-operative effort to organize and train our youth. Now that the war is over, let us not forget the debt we owe to the young people of our Province and Canada. It is the desire of this department of the Agricultural Extension Service to encourage and assist in constructive rural youth programmes and activities.

Junior Farm and Home Clubs.

Youth training is the key to rural progress. It was interesting to note at the National Contests at Guelph and Toronto this year the keen spirit of initiative and progress shown by junior club members, leaders and extension workers. Boys' and Girls' Club work has been carried on in much the same way for the past fifteen years. Much of value has been accomplished, and a solid foundation laid. However, the time has arrived for us to take stock and to build on that foundation. Governments, industrial firms, co-operative societies and other farm organizations are intensely interested in the progress and training of rural youth, and are providing splendid financial support and encouragement towards extension of Junior Farm and Home Club activities in Alberta.

The following tables of figures show the number of clubs and respective memberships for 1939, 1944 and 1945.

	Number of Clubs			Membership		
	1939	1944	1945	1939	1944	1945
Live Stock Projects:						
Swine	30	12	7	612	219	131
Beef	22	42	47	551	888	942
Dairy	10	11	15	258	213	336
Poultry			5		168	67
	62	75	74	1421	1488	1476
Crop Club Projects:						
Wheat	74	19	21	1260	315	366
Oats	23	26	19	296	427	333
Malting Barley	7	9	8	98	107	158
Feed Barley		17	7		262	94
Flax	1	1		9	14	
Potatoes		3	2		48	24
Forage Crops		19	14		340	224
	105	94	71	1663	1513	1199
Projects for Girls only:						
Garden Clubs		14	19		190	288
Home Economics		56	72		791	1173
		70	91		981	1461

SUMMARY

	Number of Clubs			Membership		
	1939	1944	1945	1939	1944	1945
Live Stock Projects	62	75	74	1421	1488	1476
Crop Club Projects	105	94	71	1663	1513	1199
Projects for Girls		70	91		981	1461
	167	239	236	3084	3982	4136

Beef Calf Clubs.

Beef calf feeding clubs remain our most popular junior live stock project. The emphasis is still present with respect to production of finished beef and the market value, together with most encouraging support from buyers as regards price, has kept the numbers of these clubs high. This year, there were 47 beef clubs compared with 42 in 1944. Active support in respect to prize money has been freely given by the various breed associations and numerous other organizations and service clubs.

Although the type and finish of calves exhibited was high at some of the fairs, nevertheless there still seems to be a great need to raise the general standard of quality and finish in many of the clubs. With a slackening of the wartime duties of District Agriculturists in such matters as farm help, labour for essential industries and mobilization investigations, it would appear that they will be in a better position to give more time to the general supervision of these clubs.

The practice of holding co-operative fairs and sales was in evidence again this year. The following table lists the particulars with respect to these fairs:

CO-OPERATIVE BEEF CALF CLUB FAIRS AND SALES, 1945

Date and Place	Clubs Participating
May 28—Lloydminster	Marwayne, Kitscoty, and 2 Sask. Clubs.
June 2—Benalto	Benalto and Gilby.
June 6—High River	High River, Gladys Ridge and Okotoks.
June 6—Vegreville	Vegreville, Chipman and Viking.
June 8—Tofield	Beaver Lake and Tofield.
June 8 and 9—Brooks	Brooks, South Slope, Gem, Nigger John, Rolling Hills and Jenner.
June 13—Edmonton	North Edmonton, Clover Bar-Fort, St. Lina, Consort and Veteran.
June 16—Lacombe	Lacombe, Innisfail, Ponoka and Wetaskiwin.
June 27—Cardston	Cardston and U.I.D.
July 7—Lethbridge	Lethbridge, singles and groups.
October 23—Calgary	Balzac and Simons Valley.

Single shows and sales were held May 17th at Byemoor, June 5th at Macleod and Claresholm, June 7th at Rockland, June 14th at Provost, and June 15th at Chauvin.

W. C. Gordon, instructor in Animal Husbandry, Olds School of Agriculture, was again appointed as fieldman to assist the District Agriculturists with their live stock club judging competitions and fairs. This is a fairly satisfactory arrangement to give specialized assistance to our live stock club supervisors.

Dairy Calf Clubs.

Dairy calf clubs have increased in number from 11 clubs last year to 15 clubs this year, with another club in the process of formation at the present time. Some difficulty is still being experienced in securing proper heifer calves for these clubs. However, despite this difficulty good progress has been made. Various dairy clubs received in all a total of 112 calves in 1945.

The dairy calf club enterprise constitutes a three-year programme. Each club member secures a heifer calf each of the three years so that at the Achievement Day of the third year, three classes of stock are shown: calves, yearlings and two-year-olds. Commendable fairs were held this year at Andrew, Bowden, Bow Slope, Didsbury, Red Deer and Smoky Lake. Splendid local support from different organizations has added to the success of these fairs. The Alberta Dairymen's Association donates two prizes for best showmanship at each fair. The Alberta Branch of the Holstein-Friesian Association also offer liberal special prizes to supplement the regular schedule of prizes.

The Alberta Dairymen's Association at their annual meeting this year invited two club members from each dairy project in the Province to attend their meetings and banquet. Two junior farmers were selected to talk to the Association respecting the work that their clubs are doing. This promises to become a permanent feature at the annual meetings of the Dairymen's Association, and is certainly looked upon with favour from the standpoint of our junior club set-up. All expenses in connection with the attendance of the junior club farmers are paid by the Association.

Swine Clubs.

It will be noticed from a study of the table on number of stock clubs and their respective memberships, that swine clubs have decreased in number from 12 for 1944 to 7 for 1945. There are several reasons for this decline. Firstly, the rather uneasy feeling by Alberta farmers with regard to swine production this past year has permeated the junior farmers of the Province. Secondly, the prevalence of infectious rhinitis (bull nose) on a fairly wide scale was a particular detriment to the operation of these clubs. Clubs which completed the swine project this year: Bremner-Fort Saskatchewan, Big Prairie, Daysland, Erskine, Ferintosh, Liberty and Smoky Lake.

Poultry Clubs.

The poultry club project as it has operated in the past four years have proven rather unsatisfactory. At present this Branch, together with the Poultry Branch, is endeavouring to work out a new policy with respect to these clubs.

In the early part of the year, it was decided not to increase the number of poultry clubs because of wartime conditions. Shortage

of farm help in the early part of the year and insufficient field staff in the Poultry Branch to properly supervise the junior farmers and their flocks, all tended to add a certain amount of uncertainty to these projects. M. W. Malyon of the staff of the School of Agriculture, Olds, was detailed as Supervisor of Poultry Clubs in Southern Alberta, while H. E. McDaniel of the Poultry Field Staff gave some attention to the clubs in the north of the Province. Neither of these men were able properly to supervise the clubs, because Mr. Malyon has responsibilities at the School of Agriculture during the school term, and Mr. McDaniel did not have enough time available apart from his regular work to give these clubs proper supervision. A more permanent plan for the operation and supervision of these projects will be forthcoming in 1946. Five poultry clubs operated in Alberta this year. Even though this is the minimum number of clubs required by the Canadian Council on Boys' and Girls' Club Work to send a judging team to Toronto for the National competitions, no poultry team has ever represented Alberta at these contests.

Crop Clubs.

In September the general supervision of crop club activities was transferred from headquarters at Olds to Edmonton as previously indicated in the report. It was impossible for Mr. Hawker to devote the time to crop clubs that they require.

Considerable assistance was given by the Field Crops Branch towards the operation of crop club projects. Mr. Hallman judged at one of the seed fair circuits as well as giving general supervision to the Provincial Seed Fair at Olds last spring. Several others of the staff of the Field Crops Branch assisted with the judging at seed fairs, but not as extensively as usual. This year, the services of L. H. Perry of Airdrie, and formerly District Agriculturist at Staveland, were secured to judge at one complete circuit of junior seed fairs. This arrangement was very satisfactory, as it provided continuity of service resulting in a valuable report to this office on various phases of the seed fairs and club achievement programme as at present operated.

A study of the table on number of clubs and club memberships reveals several factors worthy of note. Wheat clubs were increased this year by 2 and a membership of 52. Oat clubs were reduced from 26 to 19, feed barley clubs dropped from 17 to 7, malting barley clubs remained fairly steady with an increase in membership of 51, while forage crop clubs decreased by 5 as compared to 1944. There are several reasons for the changes in number of clubs, but the most important of all is probably the fact that by the spring of this year there had developed a rather serious shortage of farm help, and in addition to this fact, the District Agriculturists were very busy with other duties pertaining to their work. However, according to reports received from district offices, it appears that more clubs will operate in 1946.

Seed supplies distributed to both old and new clubs this year were: Oats, 1,192 bu., wheat 1,136 bu., feed barley 96 bu., forage crops 2,525 pounds. Seed for malting barley clubs was distributed to clubs directly from the Canada Malting Co., Calgary. Cost of seed supplies is shared by the sponsors and the clubs themselves through membership fees. Forage crop clubs are sponsored jointly by the Department of Agriculture and the Alberta Wheat Pool.

Weather and moisture conditions as a whole were not too favourable this year for the production of good plots and high quality seed. A large portion of the plots were hailed this year, others lacked proper development because of moisture conditions. Some of the clubs experienced difficulty in getting the crop threshed in time for the seed fair. Samples from the majority of clubs will be on exhibition at the Provincial Junior Seed Fair to be held at the Olds School of Agriculture next March.

For the purpose of record the following crop clubs awards at the Provincial Junior Seed Fair last March are listed below:

- Alberta Wheat Pool Gold Watch for best sample of spring wheat—Chris Lowen, Drumheller.
- The United Grain Growers Ltd. Gold Watch for the best sample of oats—Leo Alho, Abee.
- The Line Elevators Farm Service Gold Watch for the best sample of feed barley—Steve Makymec, Northern Valley.
- The Canada Malting Company Gold Watch and Silver Cup for best sample of malting barley—Robert J. Lewis, Bon Accord.
- Alberta Wheat Pool Trophy for annual competition for best individual sample of wheat exhibited by a member of a Junior Wheat Club—Chris Lowen, Drumheller.
- The United Grain Growers Trophy for annual competition for best sample of oats exhibited by a member of a Junior Oat Club—Leo Alho, Abee.
- The Alberta Wheat Pool Trophy for best group of three samples of wheat—Drumheller.
- Alberta Wheat Pool Silver Shield for wheat club with the highest general efficiency standing—Bow Island.
- Special cash awards by the Alberta Brewing industry for best samples shown by club members representing 25 bushel bulk lots of malting barley—(1) \$35.00, Thcs. A. Lewis, Bon Accord; (2) \$25.00, Robert J. Lewis, Bon Accord; (3) \$20.00, Mary L. Giffen, Okotoks; (4) \$15.00, Geo. H. Austin, Ranfurly; (5) \$12.00, Peter W. Fedorak, Willingdon; (6) \$10.00, Paul Stelmaschuk, Spedden; (7) \$8.00, Gwen Richards, Red Deer.

The following are the present sponsors of the junior crop club activities: Wheat and Forage Crop Clubs, the Alberta Wheat Pool; Oat Clubs, the United Grain Growers' Ltd.; Malting Barley Clubs, The Canada Malting Co.; Feed Barley Clubs, the Line Elevators Farm Service.

Girls' Clubs.

The Girls' Garden and Home Economics Clubs are supervised by the Women's Extension Service, and the report of their activities is given in the report of the Director, Extension Service.

Provincial Inter-Club Judging Contests.

Regional Junior Club judging competitions to determine Provincial champions and those eligible to proceed to the National Contests were held at Edmonton, October 29th, and at Olds, October 30th. The final contests were held at Edmonton, October 31st. Following are the teams who qualified for the finals at Edmonton:

- Beef Cattle—Wetaskiwin, Claresholm, Benalto.
- Swine—Daysland, Bremner-Fort Saskatchewan.
- Seed Grain—Bon Accord, Vauxhall.
- Dairy Cattle—Springbank, Didsbury, Bow Slope.

Winners of the final contests and the Provincial Champions for 1945 were the following:

- Beef Cattle Judging—Wetaskiwin Beef Club, Bert and David Shantz.
- Dairy Cattle Judging—Didsbury Dairy Club, Cloene Webb and John Parker.
- Swine Judging—Bremner-Fort Saskatchewan Swine Club, Reggie Marler and Ronald Galloway.

Seed Grain Judging—Bon Accord Malting Barley Club, Everett McCrimmon and Stan Kowalski.

Members obtaining highest scores in the final contests at Edmonton: Seed, Everett McCrimmon, Bon Accord; Beef Cattle, Bud McBride, Benalto; Dairy Cattle, Eric Longeway, Springbank; Swine, Reggie Marler, Bremner.

Teams standing in second place at the Provincial finals win the free trip to Junior Club Week at the School of Agriculture, Olds, next July.

National Judging Competitions

The Provincial judging champions won the right to represent Alberta at the National Contests which were held at Toronto and at the O.A.C., Guelph, on November 18th and 19th. These National competitions are held under the auspices of the Canadian Council on Boys' and Girls' Club Work. Although our teams did not win any Dominion championships this year, they did however make a creditable showing. Alberta won second place in the beef and seed grain judging projects, third in the swine competition, and seventh in the dairy cattle contest. It is interesting to note that Alberta placed second in all projects entered in the matter of individual high contest scores. One of our swine team members developed an attack of "flu" during the contests, and therefore was not at his best.

As a matter of record the following is a complete summary of Alberta's placings in the Dominion contests since their inception in 1931 under the supervision of the Canadian Council on Boys' and Girls' Club Work.

ALBERTA PLACINGS, NATIONAL CLUB CONTESTS, TORONTO					
GRAIN			BEEF		
Year	Club	Placing	Club	Placing	
1931	Consort	1st			
1932	Willingdon	4th	Falher	4th	
1933	Camrose	3rd	Tofield	2nd	
1934	Alliance	5th	Lacombe	1st	
1935	Grande Prairie	1st	Lacombe	1st	
1936	Stettler	3rd	Red Deer	6th	
1937	Wembley	1st	Edmonton	2nd	
1938	Airdrie	2nd	Red Deer	2nd	
1939	No Contents				
1940	Nanton	3rd	Cremona	2nd	
1941	Drumheller	2nd	North Edmonton	1st	
1942	Bon Accord	3rd	Innisfail	1st	
1943	Vauxhall	1st	Innisfail	1st	
1944	Bashaw	1st	North Edmonton	3rd	
1945	Bon Accord	2nd	Wetaskiwin	2nd	
Total Placings—Grain:			Total Placing—Beefs		
1st		5	1st		5
2nd		3	2nd		5
3rd		4	3rd		1
Others		2	Others		2
DAIRY			SWINE		
Year	Club	Placing	Club	Placing	
1931	Olds	7th	Wetaskiwin	3rd	
1932	Olds	4th	Grande Prairie	4th	
1933	Didsbury	6th	Liberty	3rd	
1934	Olds	6th	Taber	5th	
1935	Westmount	7th	Dina	1st	
1936			Liberty	1st	
1937			Liberty	1st	
1938	Lethbridge	5th	Liberty	4th	
1939	No Contents				
1940	Camrose	5th	Liberty	1st	
1941	Lethbridge	5th	Liberty	7th	
1942	Didsbury	5th	Ferintosh	3rd	
1943	Rosalind	5th	Liberty	2nd	
1944	Rosalind	8th	Erskine	3rd	
1945	Didsbury	7th	Bremner-Fort Sask.	3rd	
Total Placings—Dairy:			Total Placings—Swine:		
1st			1st		4
2nd			2nd		1
3rd			3rd		5
Others		12	Others		4

Junior Club Week.

The fourth annual Junior Club Week for proficiency winners of live stock and crop clubs was held at the Olds School of Agriculture, July 16th to 21st. This is the top prize award to one member of each of the various clubs for scoring highest in general proficiency in their club programme of the previous year. Cost of transportation, board and room is assumed by the various club sponsors. The crop club sponsors are listed in the crop clubs section of this report. Stock clubs are sponsored by the Department of Agriculture.

This year there were 155 boys and girls who were eligible to attend Junior Club Week at Olds. However, at the last minute a number of them had to drop out in order to help with the work on the farm. There were 140 in attendance, 23 of whom were girls. They were a little older than those attending for some years previous, and on the whole were the best group of young people at Junior Club Week for some time. They were wide awake, attentive and particularly well behaved.

Winners of seven scholarships of \$75.00 each toward expenses of the first year of the regular courses at the Schools of Agriculture, offered by the Alberta Surplus Wheat Board Moneys Trust were announced at the close of the week's enterprise. Scholarships in various projects were won as follows:

Swine Clubs—Ronald K. Galloway, Fort Saskatchewan.

Dairy Clubs—Art Duby, Rainier.

Beef Clubs (two Scholarships) — Gerald Cole, Clive, and Bert Shantz, Wetaskiwin.

Wheat Clubs—Robert Hironaka, Raymond.

Oat Clubs—Charles Whitesell, Rimbey.

Barley Clubs—Paul Stelmaschuk, Spedden.

Junior Club Week for efficiency winners from the Home Economics and Garden Clubs and members of the Women's Institute Girls' Clubs was held at Olds during the week beginning July 9th. There was an attendance of 162. About 45 of these were from the Women's Institute Girls' Clubs. Winners of scholarships were as follows: Girls' Home and Garden Clubs, Margaret Baker, Erskine, with Glendon Davies of Carmangay in second place; Evelyn King of Leduc was winner of the scholarship for Women's Institute Girls' Clubs.

The Junior Club Bulletin.

This bulletin, a copy of which goes to every junior club member in the Province, is published quarterly. It has been in continuous publication for the past 13 years. This little newspaper serves as a medium through which information of various projects and about different club members is distributed. It is the common bond of our club youth. The "Junior Club News," a quarterly publication of the Canadian Council on Boys' and Girls' Club Work, is sent out to each club member, together with our publication.

Boys' and Girls' Camps at "B" Class Fairs.

The Department of Agriculture again co-operated with the "B" Class Fairs in operating Boys' and Girls' Camps this summer. Dates and locations of camps were as follows: Lloydminster, July 23rd to July 25th; Vermilion, July 26th to July 28th; Vegreville, July 30th to August 1st; Red Deer, August 2nd to August 4th. Farm Girls' Camps were conducted only at Red Deer and Vegreville Fairs. Local District Agriculturists, who were in close contact with local

fair boards, assisted in the organization and administration of these camps. Assistance in farm instruction was given by J. E. Hawker and W. C. Gordon of the staff of the School of Agriculture, Olds, B. T. Stephanson, the Department's Agricultural Engineer, and W. Lobay, Provincial Weed Supervisor.

These farm boys studied and observed the exhibition of live stock, fair displays, and in one instance witnessed the show and sale of club calves. They also received instructions in problems of soil conservation, weed control, live stock and grain judging. Competitions were held in weed identification, live stock and grain judging for which prizes were awarded for best performance. It should be mentioned that in the case of the Lloydminster Fair camp instruction, administration and prizes were shared between the Alberta Department of Agriculture and the Department of Extension University of Saskatchewan.

Attendance at the camps was as follows: Lloydminster, 80; Vermilion, 72; Vegreville, girls 20, boys 50; Red Deer, girls 28.

A word of acknowledgement is in order for assistance rendered by the Alberta Wheat Pool, Line Elevators Farm Service and the National Film Board, in making the conduct of the camps a success.

Junior Farm and Home Club Camps and Field Days.

A relatively new feature in regard to junior club activities was started last year and considerably enlarged upon this year. In 1944 a one-day picnic of members of clubs between Camrose and Stettler was held at Buffalo Lake. The programme consisted of games, movies, talks by the Extension Service staff and, of course, swimming and eats. This was so popular that it was repeated this year, with the addition of volley ball, wiener roast and bonfire. Approximately 200 were in attendance, representing boys' and girls' clubs at Rumsey, Byemoor, Leo, Red Willow, Stettler, and Erskine. R. D. Price, District Agriculturist at Stettler, and Miss Esther Anderson, District Home Economist, were in charge of the programme.

A more elaborate project was developed last July for Eastern Alberta junior clubs. This was a three-day camp at Shorncliffe Lake near Czar, and sponsored jointly by the Department of Agriculture, the National Film Board and the University of Alberta Extension Department. The camp lasted from Friday until Sunday afternoon, and a well balanced programme was followed. Organized sports activities, weed and forage plant identification contests, talks on agriculture, films, church service and community life study such as home beautification constituted the main programme. Shorncliffe Lake was ideal for this type of enterprise, as sufficient cabins and other buildings were available to accommodate double the 30 club members who were in attendance. This was a particularly successful venture, and judging from the enthusiasm expressed by club members who attended, promises to develop as a permanent part of the Junior Farm and Home Club set-up.

Another one-day club picnic and field day was held at the Horticultural Station at Brooks. The station grounds provided an ideal setting for the club field day. The programme followed was somewhat similar to the one at Buffalo Lake. A similar enterprise was conducted at the Dominion Experimental Farm at Lethbridge with seven clubs represented from Hilda, Schuler, Bow Island, Vaux-

hall, Raymond and Macleod. Over 250 club members and parents took part in the programme. One interesting feature at Lethbridge was a demonstration by the Experimental Farm staff on new and modern hay making equipment. A soft ball tournament and trip to Henderson Lake for a swim rounded off the day's proceedings.

Dominion-Provincial Youth Training.

Limited participation in youth activities provided for under Schedule "E" of the Dominion-Provincial Youth Training Agreement, was continued during the early months of the year.

Eight girls and three boys from farms were granted assistance under Division "A", Schedule "E", of the agreement, to attend the Olds School of Agriculture in the 1944-45 term. Grants for this purpose could be made only on behalf of a limited number of deserving candidates who otherwise could not possibly provide the full funds required to meet the expenses of the course. All of the girls and two of the boys successfully completed their year, several with high standing. One of the boys was obliged to drop out before the close of the term because of illness. The agreement for the current fiscal year commencing April 1st did not include provision for these grants, therefore no students now registered at the Schools of Agriculture are at present receiving this assistance.

Under Division "B" of Schedule "E" of the agreement, the Farm Repair Schools were continued in the fall and winter of 1944-45. These were first organized in the winter of 1943 to relieve in some measure the shortage of new farm machinery and repair parts during the war years. They provide a training to young farmers whereby they may themselves effect repairs upon much of the farm equipment which ordinarily would probably be discarded. Each school is of three weeks duration and is under the personal direction of one practical instructor, with a maximum limit of 20 trainees per school. Twenty such schools have been held during the past three winters with a total enrolment of 325 young men in the age range from 16 to 35 years.

One circuit of five repair schools and a second circuit of four schools were conducted last winter under tutorship of H. C. Locke and A. C. Wagner respectively. As both of these men have had an extensive practical teaching experience in this type of work, the schools at all points were very successful, and were fully appreciated by the trainees and the local sponsors. Schedule of schools follows:

CIRCUIT 1 (H. C. Locke, Instructor)		
Centre	Dates of Term	No. of Trainees
Red Deer	Nov. 28 to Dec. 15 (1944)	20
Tofield	Jan. 4 to Jan. 24	20
Wainwright	Jan. 29 to Feb. 16	19
Sedgewick	Feb. 20 to Mar. 9	15
Drumheller	Mar. 13 to Mar. 30	14
CIRCUIT 2 (A. C. Wagner, Instructor)		
Centre	Dates of Term	No. of Trainees
Fairview	Jan. 8 to 26	16
Berwyn	Jan. 30 to Feb. 16	12
Beaver Lodge	Feb. 20 to Mar. 9	14
Grande Prairie	Mar. 13 to Mar. 30	15

The following list of work done at the Tofield School is representative of most: Four work benches made for use in school and taken home by boys who paid for material, one three-furrow plow overhauled and adjusted, also two mowers and two binder tying

attachments, to complete tractor overhauls, one partial tractor overhaul, seven small farm engines, one Chev. auto engine, lighting system installed on tractor, 14 handsaws set and filed, each trainee made quart measuring can as soldering project, five home-made electric fence outfits completed.

Two circuits of four schools are planned for the first three months of 1946, commencing on January 7th at Legal and Ryley.

REPORT OF ACTING SUPERVISOR OF RELIEF SETTLEMENT PLAN

(E. B. SWINDLEHURST)

During the depression years, the Relief Settlement Plan offered an effective means of livelihood to families whose future appeared all but hopeless. Many families who would otherwise be in receipt of direct relief decided that the help available under this plan would enable them to start afresh and to become independent of the unsatisfactory employment conditions then prevailing. Numerous expressions of appreciation have since been received from settlers of the opportunity provided for a fresh start and an independent existence.

In a plan of this kind, it is inevitable that a percentage only of those given the opportunity will eventually become successful. Only those who enjoyed farming as an occupation or who were of the opinion that their families would benefit in health and satisfaction from life on the farm, strove for permanent establishment. For others, the plan presented merely an escape from depressing conditions until such time as an improvement in employment occurred, and they could return to the city. Again, there were those who were unable to adapt themselves to rural life, and returned after making little attempt at establishment.

The improvement in employment conditions during the war years, together with the call for men for the armed forces, resulted in the abandonment of a number of settlers. Many of those who remained on the farm have proved their ability as farmers, and are now in receipt of comfortable incomes. Families have grown up in a healthful, independent atmosphere. Some have remained on the home farm to assist their parents, others are taking over the home farm, while still others have obtained farms of their own.

In all, 1,092 settlers and their families were placed on the land under provisions of the Relief Settlement Plan. Of this number, 643 left the farm to take up other employment, to join the armed forces, or as a result of inability to adapt themselves to farm life. Among this latter class, however, 187 only are listed, remaining abandonments have been due to change of occupation (233), enlistments (76), and other causes (147). During the past year 17 abandonments have occurred.

Repayments during 1945 amounted to \$15,721.57, an increase of \$4,980.91 over payments received in the previous year. Total repayments under the Relief Settlement Plan to date amount to \$55, 257.14. Contributing to this amount have been 145 settlers who made full payment of the recoverable portion and 100 who have made partial payment of their indebtedness. During 1945, full payment was completed by 60 settlers. In addition to repayments received, a total of \$81,724.69 has been recovered as a result of salvage of stock and equipment due to families leaving the farm.

REPORT OF SUPERINTENDENT OF PROVINCIAL HORTICULTURAL STATION, BROOKS, ALBERTA

(P. D. HARGRAVE)

INTRODUCTION

The programme of the Provincial Horticultural Station continued along similar lines to that of the past four seasons. Some curtailment was necessary due to labour shortages. Emphasis was placed on fruit testing and breeding, as this is the main function of the Station. Potato experimental work, including fertilizer trials and varietal testing, continued. Vegetable and sugar beet trials were increased. Data was available from potato and corn tests. However, no results were obtained from other experimental work as a heavy hail storm on August 25th did severe damage.

When the operation of the East Station was taken over in 1941, all fields were badly infested with noxious weeds and couch grass. The cultural programme adopted to correct this condition has made considerable progress, and four fields are again available for experimental work. Portions of some fields required levelling. These are being built up with leguminous crops. Of the 142.5 irrigable areas at the East Station, 33.42 are planted to orchards, 73.51 are available for open field work and future planting. The balance, 55.34 acres, is made up of dry land and irrigated pasture, a portion of which could be made available for horticultural work if levelled and drained.

The Horticultural Station grounds are to the east and west of the subdivided area of Brooks and along the railroad right-of-way. An expanding population and potential industrial development is looking for more subdivided property. Since the Station was taken over by the Department of Agriculture, there have been requests, at different times, for areas of land. Four of these requests have been granted, allowing 30.03 acres to be subdivided from the East Station. During the past year further requests have been made, but any reduction of this acreage without replacement will definitely hamper the development of a horticultural programme for the Station.

Growing conditions of the Irrigated District present possibilities for hop production. To investigate this field, a hop yard was established. If the plants establish themselves the programme will be extended next year. Shelter belts were planted around two fields on the East Station.

The average planted to potatoes in the Eastern Irrigation District was 1,442 acres as compared to 748 acres in 1944.

Horticultural groups throughout the Province have become more active, and are greatly in need of guidance.

Staff changes were numerous. No experienced casual labour was available. There were 16,143 man hours of labour employed during the year. J. A. McKay, Small Seeds Supervisor, was granted leave of absence to assist in establishing the Eastern Irrigation District Co-operative Association. Station personnel visited the small seed producing areas of British Columbia and potato growing districts of Idaho.

CLIMATE

The year started mildly with very little snow. This was followed by a cold spring and near freezing night temperatures which delayed fruit blossoming. Full bloom was not reached until the last week in May, and as the blossoming period was cool, the fruit crop was a failure. Early summer growing conditions were good and benefited late crops. Irrigation water was used consistently during the growing period, and it was necessary to irrigate late crops until late September. A hail storm on Aug. 25th damaged crops from 40% on the east side of the Station to a complete loss on the west. Harvest had commenced at that date. Damage to trees was severe, and may contribute to winter injury. The early part of September was wet, but was followed by a period of good harvest weather. There was an early freeze-up with a six-inch snow fall on October 25th. The month of November was colder than average with heavy snow fall. The frost free period was from May 9th to September 18th, a total of 132 days.

A temperature and precipitation summary for Brooks is given in Table 1.

	Max.	Min	Av. Max.	Av. Min.	Precipitation
January	47	—20	24.13	3.96	.49
February	48	—15	27.57	5.64	.62
March	65	—19	44.64	20.00	.64
April	71	13	48.23	24.86	.58
May	86	21	63.38	37.32	1.57
June	90	36	68.43	45.40	1.94
July	96	42	82.35	53.70	.92
August	94	44	84.41	48.93	1.15
September	83	23	64.00	39.26	2.08
October	81	13	58.41	30.93	.19
November	59	—16	25.23	8.76	.89

The last spring and first fall frosts occurred at Strathmore on May 21st and September 17th respectively, giving a frost free period of 119 days. The low temperature for the winter months was —27 degrees, and the high, in August, was 88 degrees. No damage was done to the fruit until the severe frosts occurred, which completely destroyed all remaining fruit. The growing period at Strathmore was cooler than at Brooks with heavier precipitation.

FRUITS

Fruit crops were poor at Brooks and moderately good at Strathmore, with the exception of small fruits, particularly raspberries and Manchu cherries, which yielded well. The Manchu cherries blossomed during the warm, dry spell in mid-May, and were well set before the cold, damp weather that followed. One Brooks selection was marked for propagation. Apricots, at Strathmore, bore heavily. These trees were grown from seeds introduced from Manchuria. All trees are worthy of further selection. Three have been numbered for propagation and trial. They are Strathmore Nos. 6, 7 and 8. These three trees show promise of hardiness, and have large, well-coloured, palatable fruits.

The plum seedlings from Manchuria stock fruited well, but did not mature, due to the heavy frost of September 21st.

It is in years such as this that the seasonal differences between Brooks and Strathmore are most marked. The season of maturity varies as much as eighteen days with small fruits, to a month with tree fruits. Fruit once mature remains in picking condition longer at the Strathmore Station.

Raspberry selections from Ottawa made a favourable impression, with 0-272 showing no winter injury. Chief raspberry was 100% hardy, with Latham showing 10% injury.

Fruit tree introductions to the Station numbered 73 during the past season. Many of these represent selected seedlings grown by amateur fruit growers in Alberta who wish them tested and classified if suitable for propagation.

EXTENSION

The staff of the Station assisted at meetings and short courses on 47 occasions. Five organized field days were held on the Station grounds.

Premiums were made available to five horticultural societies. Assistance was given to 12 girls' clubs in development of a home improvement programme. Seventy-two collections of shrubbery for planting ornamental corners were distributed to these clubs. During the 1945 season 4,341 plants were distributed.

Tree planting was actively encouraged during the long damp spring when farmers could not work on the land. One wood lot was established in co-operation with the District Agriculturist.

Many of the demonstration orchards planted in 1939 and 1940 fruited heavily. Twenty-three of them were visited and reported on. Field days were held at four.

The encouragement of a potato seed production program and local direction of the potato ring-rot control policy added considerably to the field work of the Station.

VEGETABLE SEED PRODUCTION

The vegetable seed programme has increased from the first contract of 12½ acres to 247 acres. Gross value of production on this year's acreage to the farmer was \$26,950.00, an average of about \$110.00 per acre. This programme has demonstrated that certain vegetable seeds can be produced economically within the district. The vegetable seed programme for post-war years cannot be outlined. Radish, we believe, will continue under large scale production. This crop repeated the success it achieved in 1944, with the farmers growing from ½ to 40 acres. Beet seed was next in importance, but this crop presented some cultural problems. Beet roots grown in 1944 wintered well, were taken from the pits in good shape, and were planted under ideal conditions. A high percentage of these failed to make top growth, and poor stands resulted. This problem could well bear investigation. Spinach, onion and herb seed production was small.

Maintenance of true to type foundation seed stocks is the key to vegetable seed production. This work is undertaken by many governmental institutions across Canada. Eleven types are being processed at the Station.

CO-OPERATIVE TRIALS

Trial plots were conducted on the Station and in the district in co-operation with farmers, the Canadian Sugar Factory, the Eastern Irrigation District, the Maple Leaf Milling Company, the Taber Canning Company, the Dominion Plant Pathology Laboratory, the Plant Science Division, and the Alberta Varietal Zonation and Fertilizer Committees.

At the request of the management of the Canadian Sugar Factories and the Board of the Eastern Irrigation District, who undertook the financing of the project, five sugar beet test plots were established under the supervision of the Small Seeds Supervisor. The plots were seeded between May 25th and May 29th, with seed supplied from Raymond. Rows were side dressed at the rate of 90 pounds per acre with 11-48 fertilizer. The plots were inspected and sampled on September 13th. The plots were reported to be promising, but very green at the time. Best samples taken in September averaged 12.53% sugar with a high of 13.8% and a low of 11.8%. Beets from one field weighed at harvest time averaged nineteen and a fraction tons per acre.

The spreading of co-operative tomato increaser plots throughout the district enabled selection and seed multiplication to escape hail damage. The selected strains of bounty are still most popular with the growers. Early Chatham and Lethbridge No. 3700, along with a segregating stock of a Bounty cross, showed great promise, particularly for the green-ripe market.

FRUIT AND VEGETABLE PROCESSING

Extended programmes in this field were applicable to the freezing of beans and corn. This work was again conducted with the generous co-operation of the Women's Extension Service staff. Results from the investigations in 1944 met with enthusiastic reception when presented. This was particularly so when the freezer varieties were recommended. Three papers reporting the findings on corn, tomato and green pepper varieties, plums and their vitamin C analysis were prepared and presented for publication.

The corn varieties tested repeated part of last year's work, for confirmation purposes, and included promising new varieties. The work with the snap and runner beans added another type of vegetable to the investigations.

Corn varieties tested numbered 32, and 28 varieties of beans were given freezer tests.

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Date Due

JUN 18 '68		Due Cam FEB 14 1992
APR 30 '83		MAR 28 '92
APR 29 RETURN	Due Cam MAY 09 1992	
DUE CAM MAY 31 '90	Due Cam JUN 17 1992	
Due Cam JUL 09 1990	Due Cam AUG 1 1992	
JUL 10 RETURN	Due Cam OCT 14 1992	
DUE CAM AUG 21 '90	OCT 18 RETURN	
DUE CAM OCT 02 '90		
SEP 19 RETURN		
DUE CAM JUL 03 '91		
Due Cam AUG 14 1991		
Due Cam OCT 04 1991		
SEP 25 RETURN		
Due Cam OCT 09 1991		
OCT 02 RETURN		
Due Cam NOV 15 1991		
DUE CAM DEC 24 '91		
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